Civil Veterinary Department in India. Administration Report 1906-07, 1908-09 & 1909-10

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ANNUAL ADMINISTRATION REPORT

OF THE

CIVIL VETERINARY DEPARTMENT IN INDIA

FOR THE OFFICIAL YEAR

134692

1906-1907.

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GOVERNMENT OF INDIA.

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FOR THE OFFICIAL YEAR

1906-1907.

GENERAL ADMINISTRATION.

The districts under the control of the Civil Veterinary Department are shown in light red on the Map which forms an enclosure to this report, and are the same as last year. With the exception of a few minor alterations, the Tables accompanying the report also remain unchanged. Preface.

2. Colonel J. W. A. Morgan was in charge of the Office of Inspector General, Civil Veterinary Department during the whole year, except for four months, when Major H. T. Pease officiated for him.

3. The Table given below gives the names of the officers who held the several appointments in the Department during the year under report :— Officers in charge.

Appointments.	1st April 1906.	31st March 1907.	REMARKS.
Inspector General ...	Colonel J. W. A. Morgan ...	Colonel J. W. A. Morgan ...	Major Pease officiated 5th July to 2nd November 1906.
Imperial Bacteriologist ...	Dr. A. Lingard ...	Dr. A. Lingard ...	
Assistant Bacteriologist ...	G. D. Martin, Esq. ...	G. D. Martin, Esq. ...	
2nd Assistant Bacteriologist ...	.....	H. E. Cross, Esq. ...	Joined 16th August 1906.
Superintendent, Government Cattle Farm, Hissar.	Captain J. Farmer ...	Captain J. Farmer ...	
Superintendent, United Provinces.	Major H. M. Maxwell ...	Major H. M. Maxwell ...	Mr. Oliver from 25th May to 25th November 1906.
2nd Superintendent, United Provinces.	E. W. Oliver, Esq. ...	E. W. Oliver, Esq. ...	
Chief Superintendent, Punjab...	Captain G. K. Walker ...	Captain G. K. Walker ...	Designations altered from 12th November 1906.
Superintendent, North-West Frontier Province and North Punjab.	V. de V. H. Woodley, Esq. ...	V. de V. H. Woodley, Esq.	
Superintendent, South Punjab	.....	.....	
Superintendent, Sind, Baluchistan and Rajputana.	K. Hewlett, Esq. ...	.....	Mr. Hewlett held charge in addition to his duties as Superintendent, Bombay.
Principal, Punjab Veterinary College.	Major H.T. Pease ...	Captain A. Smith ...	Officiated from 5th July to 9th November 1906 and from 5th March 1907 to end of year in addition to his own duties.
Professor, Punjab Veterinary College.	Captain A. Smith ...	.....	

Appointments.	1st April 1906.	31st March 1907.	REMARKS.
Professor, Sanitary Science, Punjab Veterinary College.	Captain F. S. H. Baldrey ...	S. H. Gaiger, Esq. ...	Joined 1st April 1906. Prof., Sanitary Science, from 9th October 1906.
Principal, Bombay Veterinary College.	M. H. Sowerby, Esq. ...	Major F. Joslen ...	From 3rd June 1906.
Assistant Principal, Bombay Veterinary College.	W. A. Broad, Esq. ...	M. H. Sowerby, Esq. ...	Mr. Broad died 18th September 1906.
Superintendent, Bombay ...	K. Hewlett, Esq. ...	K. Hewlett, Esq. ...	Also Superintendent Sind, Baluchistan and Rajputana in addition.
Principal, Bengal Veterinary College.	Captain A. S. Trydell ...	Lieut.-Colonel F. Raymond	Captain Trydell 1st—25th April 1906. Mr. Quinlan 26th April to 17th May 1906. Lieutenant-Colonel Raymond from 18th May 1906.
Superintendent, Bengal ...	D. Quinlan, Esq. ...	D. Quinlan, Esq. ...	
Superintendent, Eastern Bengal and Assam.	.....	.....	
Superintendent, Madras ...	Major W. D. Gunn ...	Major W. D. Gunn ...	
On special duty in Madras ...	.....	Captain J. D. E. Holmes ...	
Superintendent, Burma ...	Major G. H. Evans ...	Major G. H. Evans ...	
2nd Superintendent, Burma ..	T. Rennie, Esq. ...	T. Rennie, Esq. ...	
3rd Superintendent, Burma ...	.....	.....	
Superintendent, Central Provinces.	J. S. Jethiji, Esq. ...	J. S. Jethiji, Esq. ...	
Veterinary Officer investigating Camel diseases.	R. E. Montgomery, Esq. ...	.....	Resigned 4th March 1907.

4. From the above Table it will be observed that during the year under report, 2 officers joined the Department and were posted as follows (1) 2nd Assistant Bacteriologist and (2) Professor of Sanitary Science, Punjab Veterinary College.

5. During the year, Mr Montgomery resigned service in the Civil Veterinary Department; Captain J. D. E. Holmes returned to India after completing a course of training in Bacteriology; and Captain F. S. H. Baldrey was deputed to England to undergo a similar course of training. It is with great regret that the death of Mr. W. A. Broad, a promising young officer, which took place on 18th September 1906, has also to be reported. At the close of the year, the following officers were on leave in England:—

Lieutenant-Colonel J. Brodie-Mills.

Major H. T. Pease, C.I.E.

Major A. S. Trydell and

Captain W. O. Dawson.

It will be observed from the above table that during the year only 10 officers were employed in actual *district work*.

Inspector General's tour.

6. Colonel Morgan attended the Rawalpindi and Amritsar Horse Fairs; inspected the Bacteriological Depôt at Bareilly; (proceeded on leave to England from 5th July to 2nd November 1906); attended Arab Purchasing Committee at Bombay; inspected the Madras Veterinary College, and the Government Cattle Farm at Hissar; inspected site at Kodaikanal for proposed Bacteriological Laboratory in Southern India; attended the Board of Scientific Advice at Calcutta, and then proceeded to Burma on a tour of inspection. Was President of the Valuation Committee at the Hissar Cattle Farm and attended

the Agricultural Conference at Cawnpore. Proceeded to Bombay as a Member of the Arab Purchasing Committee in February 1907, and visited the Chharodi Cattle Farm to report on its future working and management. He travelled 13,251 miles by rail, 1,000 miles by steamer and 90 miles by road.

7. During the time Major Pease officiated as Inspector General, he inspected the Imperial Bacteriological Laboratory at Muktesar and the Rawalpindi—Srinagar dâk line. He also visited the Government Cattle Farm at Hissar. He travelled 2,212 miles by rail and 454 miles by road.

PART A.—PROVINCIAL ADMINISTRATION.

I.—VETERINARY INSTRUCTION.

8. Table I shows the main results of the work in Veterinary Colleges and Schools. The same four Colleges, *viz.*, Punjab, Bengal, Bombay and Madras were training up to the graduate course and the Rangoon School continued its two years' course in Burmese. Schools.

9. The two years' course for the training of Salutris for the Military Department was abandoned and all the students at the Punjab Veterinary College now receive three years' training and graduate in the ordinary course.

10. The results of the year's work in all these institutions have been very satisfactory. Bengal, where owing to the staff being insufficient, the results were unsatisfactory last year, has regained its position. The Principal and Assistant Principal returned from leave during the year and two young officers from England, who had been appointed to the Department, were posted to Bengal for training. This allowed of proper instruction being imparted to the students.

11. The number of students who graduated was 139 against 75 last year. From the Punjab 65, Bengal 27, Bombay 16 and Madras 12. In Burma, 19 students passed the final examination of the two years' course. The percentage of passes in the final examination was 90·6 in the Punjab, 87·09 in Bengal, 80·00 in Bombay and 67·8 in Madras.

12. Madras students have come up for examination by a Board of outside examiners for the first time and considering the weakness of the teaching staff there, the results may be considered to be fair.

13. There were 570 students remaining under training at the end of the year and 254 were admitted, against 512 remaining under tuition and 296 admitted last year. The numbers shown in the reports are as follows:—Punjab 287, Bombay 111, Bengal 65, Madras 67, Burma School 40.

14. An improved educational qualification is now required for candidates for admission to the Burma School which will improve the class of Veterinary Assistant available in the future.

15. The demand for trained Veterinary graduates still remains far in excess of the supply. Every effort is being made to meet it so far as possible, as the want of trained graduates to fill the sanctioned appointments is seriously retarding our progress.

16. Besides the training of Veterinary graduates, classes for Transport dressers were held in Bombay and the Punjab, 47 men being trained at the former and 45 at the latter College. Fifteen farriers were also trained in the Punjab College forge. The proposal to establish a similar class in Bombay has been abandoned.

17. The buildings and equipment at the various Colleges have been very considerably improved during the year but much still remains to be done in some Colleges before they will be in a position to do the work required of them. In the Punjab, a large out-patient clinic shed, fitted with all the necessary appliances, colic boxes and irrigation sheds, has been erected. Large new anatomical rooms, comprising a lecture theatre properly fitted, a museum and store for anatomical and physiological specimens, etc., and a spacious dissecting room, are being built. This will bring everything connected with anatomy and

physiology under one roof. Considerable additions have been made to the dog ward to allow of proper accommodation being provided for the admission of serious cases. In the contagious ward, six new segregation stalls have been provided and a large airy post-mortem house capable of being used for teaching purposes, is being erected.

18. In Bengal, of the buildings mentioned last year, the operation shed only has been completed but work at the various improvements sanctioned has recently been commenced.

19. It is most satisfactory to note the complete transformation which has been effected at the Bombay Veterinary College. The new buildings mentioned as having been sanctioned last year are being built and the students' quarters are nearly completed. Considerable additions have been made to the equipment. The museum has been commenced, all available material having been properly displayed and already very considerable additions have been made to them. The patho-bacteriological laboratory is being thoroughly well equipped and is now in working order and being made use of for diagnostic purposes. An operation theatre is to be erected. The pharmacy is being enlarged. The requirements still remaining, urgently required to place the institution on a proper footing, are an Infectious disease ward, Dissecting room and post-mortem room as well as a new Bacteriological Laboratory.

20. The establishment of small local research laboratories is a matter to which our attention has been directed. The Punjab and the Bengal Colleges now possess them and such work as is possible is carried out by officers in their spare time. Until, however, whole-time pathologists can be employed in them, we cannot hope for any very great progress to be made in research work. The number of officers available for work in Colleges is far too small, the Punjab being the only one which has a whole-time teaching staff. Bombay comes next, but the extra work demanded of the small staff is far too great and I consider that the Principal should be made a whole time teacher and be relieved of the work in connection with the Glanders and Farcy Department and the Harbour Inspection work. The staff has been slightly strengthened in Bengal but there seems to be no whole-time officer working in the College and the same is true of Madras, where only one officer is available for the whole of the work of the Province.

21. It will be seen that considerable progress has been made in developing the resources of our Veterinary Colleges and placing them on a proper footing in regard to buildings and equipment.

II.—TREATMENT OF DISEASE.

Contagious disease amongst solipeds. Outbreaks, mortality, etc.

22. Table II shows the reported mortality from the contagious diseases amongst animals named therein. The Army Remount Department, as usual, deals with all cases of contagious disease amongst equines occurring in the districts selected for horse-breeding under their Department and we have no record of them.

23. The same remarks as were made last year in regard to their accuracy apply this year. The figures, as a rule, relate only to cases which have been brought to the notice of the staff and do not in any way represent the total mortality from contagious diseases in our districts.

24. *Glanders.*—The reports show a very considerable increase in the number of horses attacked by Glanders, from which disease 960 horses are said to have died or been destroyed. Of these, 875 are reported from Bengal against 530 last year. Some progress was made in the arrangements for the working of the Glanders and Farcy Act in Calcutta where 33 horses were destroyed under the Act. Revised rules for dealing with Glanders, Surra and Epizootic Lymphangitis were approved and notified in the Punjab and a revised list of officers in the Province having powers of veterinary practitioners was also notified. Twelve cases of Glanders were dealt with under the Act in the Punjab; 5 of them in districts under the Army Remount Department and 7 in our own districts. The Act was well and very carefully applied in Bombay, where 41 cases were dealt with in Bombay Town and 8 in the remaining districts of the

Presidency. In the United Provinces, there were 14 outbreaks of the disease, cases occurring in Benares, Allahabad, Bijnor, Gonda and Dehra Dun, and 25 animals were destroyed. Two cases were destroyed in Karachi, one in the Central Provinces and one in Eastern Bengal and Assam.

25. *Anthrax*—Forty eight cases only were reported in the whole of India, of which 20 were in Madras and 13 in the United Provinces. There was an outbreak at Motihari, and cases were reported from Champaran and Ranchi in Bengal. In the United Provinces most of the cases were reported from the Bulandshahr district.

26. *Surra.*—Bombay City and surroundings suffered heavy losses, the mortality being especially severe in Bandra. One hundred and thirty-eight cases were reported to Major Joslen of which 2 died and the remainder were destroyed under the Act. Sixteen cases were also reported from Colaba. Fifty-seven horses are reported to have died in Shikarpur in Sind. In the Punjab, outbreaks were reported in the Gujranwala, Montgomery, Muzafargarh, Ferozepore and Ambala districts. Captain Walker ascertained personally that there were many losses from the disease amongst equines in the Muzafargarh district. In Eastern Bengal and Assam, several cases are reported to have occurred amongst the Tonga ponies on the Gauhatti-Shillong road, but no figures are available.

27. In the United Provinces it appeared at Haldwani, Kathgodam and Jeolikote and was chiefly confined to the baggage and ekka ponies. The outbreak was detected early and was rapidly suppressed by promptly destroying the affected animals under the Act. It is interesting to know that the disease did not spread to the Tonga ponies as it would undoubtedly have done if it had not been detected and dealt with. There is no doubt that the baggage and ekka ponies coming up through the Terai import the parasite in their blood and when biting flies are prevalent, are the means of infecting the tonga and other ponies working on the road.

28. In the Central Provinces there were outbreaks at Akola and Jubbulpore. Ordinary precautions of isolation were adopted and only three deaths occurred. In Bengal, 10 cases are reported from Howrah.

29. Not much progress has so far been made in determining the method by which the disease is propagated from animal to animal. Everything points to the Tabanidae being the causal agent in transmission, but, so far, definite proof is wanting. The early detection and destruction of cases doubtless limits spread by removing the reservoir of the virus

30. *Epizootic Lymphangitis.*—This disease does not appear to have attracted any notice in any of the Provinces during the year in our districts. Five cases were, however, detected and dealt with in Bombay under the Act.

31. *Dourine.*—One outbreak of this disease has been reported from Beruni in the United Provinces. The disease has previously been very prevalent in this area and has not yet apparently died out. One stallion and several mares were found to be affected. Legislative measures are under consideration and it is hoped will shortly be brought into force. Two cases are reported from Bengal but the diagnosis is not confirmed.

32. *Other contagious diseases.*—Deaths from other diseases, nature not specified, number 311 of which the majority 229 are reported from Bengal. The remarks made last year apply this year.

Contagious disease in Bovines. Outbreaks, preventive inoculation, mortality, etc.

33. Altogether 339,113 cattle are reported to have died from the various contagious diseases during the year under report. The question of the reliability of the figures was dealt with last year. They are, however, as correct as it is possible for us to make them.

34. Table III shows the number of outbreaks which it has been possible for the limited staff at our disposal to deal with by protective inoculation. This method was utilized against Rinderpest in all Provinces except Sind and 213,933 cattle were injected with serum. The majority of these were in the Punjab where the Department is most developed and where 81,008 cattle were injected.

35. Serum inoculation against Anthrax was used in the United Provinces, Madras, Bengal and Eastern Bengal and Assam. Against Hæmorrhagic Septicæmia, in all but Burma, Bengal, Rajputana and Sind; and against Black quarter in the United Provinces, Punjab and the North-West Frontier Province.

36. *Rinderpest* is reported to have accounted for 141,810 deaths against 137,233 last year.

37. *Burma.*—As was to be expected, following the heavy mortality last year the number of deaths has fallen to almost a third of what they were last in Burma. The year has been specially favourable in both Upper and Lower Burma generally. The disease, however, continued to give great trouble and cause serious losses in the Southern Shan States, being particularly severe in Möngkung, Lawksawk, Loikha, Kehsi-Mansam, Mönghsu, Möngnawng and Möngsit, but it has now considerably declined. The Northern Shan States also suffered heavy losses and 25,000 deaths are said to have occurred in the Hsipaw State and South Hsenwi. There is still no spontaneous demand for the use of anti-rinderpest serum but endeavours have been made to carry out injections whenever possible and 3,617 animals were injected in 37 villages. The disease in Burma is dealt with by segregation as far as possible.

38. *Bombay.*—Rinderpest made its appearance in the Presidency last year and has spread over the whole province. The reports show 50,144 attacks and 25,416 deaths, but the Superintendent states that these figures understate considerably the actual losses. The worst affected districts were Kanara 4,849, Nasik 3,779, Dharwar 3,235, Ahmednagar 2,863, Thana 4,049 deaths. The epizootic still continues. As reported last year, the available staff was insufficient to cope with it. Endeavours were made in some districts to obtain the services of temporary Veterinary Assistants and 11 districts employed them. The staff inoculated 39,932 cattle, chiefly in Thana, Ahmednagar, Poona and Surat. It appears that considerable progress has been made in breaking down the opposition of the people to inoculation and that they are gradually becoming accustomed to the process. In some cases, having watched the results of the operations, they have asked to have their animals protected.

39. *Punjab.*—Rinderpest was prevalent in 25 districts, 15,890 cases occurred causing 7,971 deaths. Two hundred and eighty nine outbreaks were attended and 81,008 bovines were inoculated. The Superintendent reports that the utility of preventive inoculation is becoming impressed on the public and applications for the treatment are not infrequent. It has now been generally applied in the Province and the results have been uniformly successful.

40. *North-West Frontier Province.*—Was prevalent in Peshawar, Kohat and Dera Ismail Khan and an outbreak occurred in the Kurram Valley. There were 651 deaths. 12,361 cattle were inoculated in actual outbreaks and excellent results are reported to have been obtained.

41. *United Provinces.*—Rinderpest occurred in 26 districts, the mortality being reported to be 1,254. The Veterinary Assistants visited 182 outbreaks and inoculated 11,669 cattle against 5,711 last year. Inoculation is making slow progress, many more could have been done had reports reached the officers in time.

42. *Eastern Bengal and Assam.*—Rinderpest was prevalent more or less throughout the whole Province, being reported from 16 districts and causing 20,873 deaths, the mortality being specially heavy in Sylhet, Kamrup, Goalpara, Nowgong and Cachar. Preventive inoculation was undertaken in 69 outbreaks and 18,308 cattle were inoculated. The Indian Tea Association have appointed a Veterinary Surgeon of their own in the Surma Valley, the Government giving a grant of Rs. 15,000. Mr. W. H. McCaldron, M.R.C.V.S., has been appointed to the post and has 3 assistants working under him, their special work being to inoculate cattle in tea gardens and villages against Rinderpest. They inoculated 6,674 cattle.

43. *Bengal.*—Reports Rinderpest in every district excepting Cuttack, Saran, Shahabad, 24-Parganahs, Howrah and Hoogly. One hundred and ninety-four outbreaks were attended and 24,074 cattle inoculated.

44. *Central Provinces*—Rinderpest appeared in every part of the province except Wardha, Nagpur and Chanda, but was not so serious as last year. Eleven thousand, four hundred aud fourteen cattle were inoculated in 198 outbreaks. More inoculations would have been done had men been available for the purpose.

45. *Madras.*—The loss from Rinderpest was heavy in Kistna, Kurnool, Guntur and Nellore. No records are given of the outbreaks, but the number of cattle inoculated is reported to be 11,043.

46. Considerable progress has been made in dealing with this disease.

47. *Anthrax.*—The same remarks apply as were made last year. The figures given show that 16,100 cases were reported in the whole of India, the majority, 12,082, having occurred in Madras, and Eastern Bengal and Assam 1,576. The disease appears to be steadily on the decline in Madras but it is still serious in Kistna where it has not been possible to carry out inoculation. In Eastern Bengal and Assam the disease was most prevalent in Cachar and Sylhet. In Bombay, cases occurred in Poona, Sholapur, Dharwar, Ratnagiri, Panch Mahals and Ahmedabad. Punjab reports 210 in three districts and the United Provinces 857 deaths in 19 districts. Bengal, 456 cases in 10 districts.

48. Only 11,295 inoculations were carried out, nearly all in Madras. Reports were, as a rule, received too l ate in other Provinces.

49. *Hæmorrhagic Septicæmia.*—The total number of deaths reported is 24,284. The disease occurred in 27 districts of the Punjab, Lyallpur, Lahore and Amritsar suffering most. There were 1,069 deaths in 23 districts of the United Provinces, 685 in 5 districts of Bombay, 9,086 in Madras and 670 in 3 districts of the North-West Frontier Province.

50. Preventive inoculation of incontact cattle in the infected villages was carried out in the Punjab in 25,951 cases, United Provinces 4,153, North-West Frontier Province 4,946, Madras 679, Eastern Bengal and Assam 376, Central Provinces 105 and Bombay 60. There is, therefore, a very considerable increase in the number of inoculations performed, 36,270 against 13,315 last year, and the results so far as can be ascertained, are satisfactory.

51. *Foot and Mouth disease.*—As usual this malady has been generally prevalent. The reports show 21,297 deaths during the year. The disease was most prevalent and fatal in Eastern Bengal and Assam, where 10,172 head of cattle perished. It has, however, not been so troublesome in other Provinces, there being a marked decrease in the number of deaths in Burma, *viz.*, 3,404 against 12,308 last year, and in Madras, 2,794 against 4,074 in 1905-06. In the Punjab, Bengal and Bombay, the number of deaths reported is slightly in excess of last year but is insignificant.

52. *Black Quarter.*—Some progress has been made in operations against this serious malady, especially in the Punjab. Effective vaccines against the disease are available and the results obtained from their use in other countries are excellent. In America, losses have been reduced from 10 to 15 per cent annually to 0·5 per cent. Attempts have been made in the Punjab and North-West Frontier Province to ascertain in what villages it is prevalent and to immunise the young cattle in them. In the Punjab, 3,151, in the North-West Frontier Province 1,500 and in the United Provinces 260 young cattle have been inoculated with good results. The preparation used was "Blacklegoids". The total number of deaths reported is 6,887, the majority being from Madras. It is hoped that as the staff increases we shall be able to extend these operations.

53. *Other contagious diseases.*—The remarks made last year apply this year.

54. *Contagious disease amongst other animals.*—No reliable reports have been received regarding the prevalence of contagious disease amongst animals other than horses and cattle. It has been estimated that about 10 per cent. of camels die annually from Surra which is a terrible scourge to these animals. The same remarks as were made last year apply this year.

Other diseases

55. Table IV gives the number of animals treated and castrated by Veterinary Assistants on tour during the year. It appears from this that the 320 Veterinary Assistants visited 41,657 villages and treated 211,718 cases. This shows a falling off in the number of villages visited, but more animals were treated. The chief decrease shown in the number of villages visited is in the Punjab, but on the other hand more cases have been treated there, although one man less was employed. There is considerable progress in the North-West Frontier Province.

56. There was a marked increase in the number of animals castrated, 1,854 of which 911 were equines, against 1,385 last year.

Veterinary Hospitals and Dispensaries.

57. Table V gives the number of these institutions, the Veterinary Assistants employed and the number of animals treated as in and out-patients. There is a satisfactory increase in the number of hospitals and dispensaries working, 315 against 290 last year. Four new ones have been opened in each of the Provinces of Punjab, Eastern Bengal and Assam, and Bombay, 3 each in the Central Provinces and Bengal, and 2 in the North-West Frontier Province. Madras shows 4 more than last year and Burma 4 less.

58. The number of Veterinary Assistants employed in dispensaries is 317 against 308 last year, an increase of 9.

59. The total number of in and out-patients treated was 267,555 of which 83,922 were equines, 143,650 cattle and 39,983 other animals, a total increase of 1,858. There has been a steady increase all round excepting in the case of Eastern Bengal and Madras, in which latter province the decrease is shown as 42,528 cases. Last year's figures for Madras were incorrect.

III.—BREEDING OPERATIONS.

(1). BOVINES.

Stud bulls and their produce.

60. Table VIII gives the number of stud bulls employed and obtained during the year. Some progress has been made in the provision of bulls for breeding purposes, the total number present being 20 Government and 386 the property of Local Boards. New Government bulls have been obtained only in Central Provinces. The 42 shown under this head in the Punjab last year have been transferred to local bodies. In the Punjab very good work has been done in this direction and a scheme for the regular supply of breeding bulls at the rate of one per tahsil annually, has been sanctioned. This year 180 have been purchased and issued, so that this province now possesses 356 out of the total of 386 in the whole of India.

61. In the Central Provinces, 5 Government bulls became available for issue from the Telankheri Cattle Farm, and the same number were turned out by local bodies in the North-West Frontier Province. In Bombay, 9 were obtained. In this Presidency a scheme to provide stock bulls to villages requiring them was instituted in the Admednagar district. The village was to receive conjointly an advance of money as " tagai " for the purpose of buying a bull suitable for breeding and which had been approved by the Superintendent, Civil Veterinary Department. Thirty-four villages availed themselves of the offer and 30 young " khillari " bulls were bought.

62. In the United Provinces it is satisfactory to learn that increasing interest is being shown in many parts of the Province in regard to the improvement in cattle breeding. Twenty-two stud bulls of the " Kharigarh " breed are being introduced into the Court of Wards Tiloi Estate and 30 cows into the Peagpur Estate with a view to breeding bulls. Six bulls were also bought by the Sassendi Estate and many other districts and estates are anxious to introduce good bulls and improve their cattle.

63. In Bengal, some demands for bulls were received which could not be complied with. In consequence of the failure of the experiment conducted with eight Montgomery bulls obtained last year to improve the milch strain of local cattle, it is not proposed to supply bulls for the production of milch cattle until the young stock at the Pusa and Siripur Farms are old enough for selection.

64. Table IX gives the main results of the working of the Provincial Cattle Farms. Details are given regarding the same five farms as were working last year, *viz.*, Pusa and Siripur (Hathwa Raj) in Bengal, the Northcote Gowshalla at Chharodi in Bombay and the Telankheri and Powarkhera cattle-breeding farms in the Central Provinces. **Bull-rearing and breeding Farms and Depôts.**

65. *Bengal.*—There are at Pusa 119 head, including 35 young male stock at present too young for selection. The breeding herd consists of 1 bull and 41 cows. At Siripur there are 161 head, 48 of which are young male stock too young for selection. The breeding herd consists of 4 bulls and 61 cows. These farms were inspected during the year.

66. *Central Provinces.*—At Telankheri there are 149 head of stock with 51 young male stock, of which 5 are now ready to be sent out to the districts for breeding purposes. The breeding herd here consists of 2 bulls and 55 cows. At Powarkhera, also in the Central Provinces, there are 74 head, 27 being young male stock as yet too young for selection. The breeding herd consists of 10 bulls and 20 cows.

67. The Deputy Commissioner of Mandla has expressed a desire to start a Cattle Farm under the Court of Wards at Kinri to improve the cattle of the local Ramgarh breed.

68. *Bombay.*—The Northcote Cattle Farm at Chharodi consists of 255 head including 25 young male stock. The breeding herd comprises 3 bulls and 110 cows.

69. *Punjab.*—The scheme for the Sargodha Farm is still pending and has not progressed very far, as the question of acquiring the grazing on the Dhrema and Risala rukhs is still under consideration.

70. Such attention as has been possible is being given to the problem of improving the breed of sheep. With the object of improving the quality of the wool, 7 merino rams were obtained from Australia. Two were sent to the Kurrum Valley and 5 to the Hazara district. They were kept during the cold weather at Thal and Haripur and have since then been entrusted to the care of the owners of large flocks who will be responsible for their maintenance. They are now in the hills near Parachinar and Khagan. The number is small and it is hoped that more will be obtained shortly. **Sheep-breeding.**

71. In the United Provinces, enquiries are being made as to the possibility of improving the sheep breeding industry.

72. The Madras Superintendent remarks that it is gratifying to note that some endeavour has been made to exhibit a better class of wool-bearing sheep and if some further attention be paid to the colour of the fleece it would command a better market. There is a very useful field to be opened up here as wool, always commands a fair price and there is always a market.

(2) EQUINES (UNDER LOCAL BODIES).

73. Table X gives the number of horse, pony and donkey stallions under local bodies in non-selected districts. There were 59 horses, 112 ponies and 65 donkeys present at the end of the year and of these, 40 horses, 11 ponies and 7 donkeys were in the United Provinces; 5 horses, 60 ponies and 48 donkeys in the Punjab; 8 horses, 10 ponies and 10 donkeys in the North-West Frontier Province; 6 horses and 12 ponies in Bombay; 14 ponies in Madras; 4 ponies in Burma; and 1 pony in Bengal. The increase and decrease in the numbers of the various stallions is shown as increase 16 horses, 16 ponies and no donkeys; decrease 11 horses, 15 ponies and 13 donkeys. **Horse, pony and donkey stallions.**

74. The question of the supply of donkey stallions which are urgently needed has received attention, and an officer of this Department has been deputed to Cyprus and the Continent to purchase the number required.

75. Table XI gives the services and produce of each class of horse, pony and donkey stallion employed. From this it will be seen that 55·23 horse stallions were actually employed at stud and covered 2,773 mares, an average of 50. Ponies at stud numbered 107·23 and covered 4,185 mares, an average of 38. Donkeys, 65 at stud, covered 3,282 mares, an average of 50·5. Many of these donkeys are very old and will be replaced.

76. Table XII gives the average cost of feed, keep and attendance of horse, pony and donkey stallions.

Fairs and Shows.

77. Table XIII gives the abstract particulars regarding Horse Fairs and Shows held in non-selected districts. Seventeen were held against 14 last year and nearly double the number of animals were present, *viz.*, 35,242 against 18,685 last year. The number competing for prizes rose from 2,082 last year to 8,707 this, and Rs. 6,893 as well as 5 medals were awarded as prizes. A revised schedule and rules were drawn up by Captain Walker and sanctioned for Horse Shows in non-selected districts in the Punjab.

78. Table XIV gives the abstract particulars regarding Cattle Fairs and Shows. Altogether 73 were held during the year against 64 last year. The amount actually awarded in prizes was Rs. 25,887 and 61 medals out of a total of Rs. 37,701 available. The total number of stock present at the Fairs was 836,067 and the number competing for prizes was 11,077 cattle and 35 camels. The amount realized in fees was Rs. 136,989-11-6. It has been decided to discontinue the Imperial grant of Rs. 9,000 to Cattle Shows.

IV. SUBORDINATE ESTABLISHMENT.

Numbers supervision and work performed.

79. Table VII gives the strength of the subordinate establishment. There are at present 54 Veterinary Inspectors and 446 Veterinary Assistants employed in the whole of India, against 30 Inspectors and 417 Veterinary Assistants last year. This is a satisfactory increase considering the limited number of men available. In the Punjab good progress has been made, 6 Inspectors and 9 Veterinary Assistants having been added during the year. I am glad to say that the pay of these men has been increased in this Province and it has been decided to add 8 men a year to the cadre in future to provide a 2½ per cent. reserve for leave vacancies and training. The increase of the establishment of Veterinary Inspectors has allowed of their charges being made much smaller; their divisions now consist of 3 or 4 districts each. This has contributed to the efficiency of the Department considerably. The scheme is to post a Veterinary Assistant to each tahsil and an extra man to each district. The same plan is being adopted in the North-West Frontier Province.

80. The progress made in the United Provinces is also satisfactory, 4 Veterinary Inspectors and 15 Veterinary Assistants having been added to the staff. The pay has been slightly raised and should attract more men to join in the future. Great difficulty has been experienced in obtaining Veterinary Assistants during the year. In order to temporarily meet the difficulty, a scheme has been sanctioned for the deputation of a certain number of students annually to the Punjab and Bengal Veterinary Colleges as scholarship holders. Improvement has been made in other Provinces but it is slow. The work done by the subordinate Department generally is reported to be very good.

PART B.—IMPERIAL ADMINISTRATION.

Bacteriological Laboratory.

81. Dr. Lingard has been in charge of the laboratory during the whole year and the staff has remained the same, with the exception that Mr. H. E. Cross has been appointed as Second Assistant Bacteriologist and joined late in the year. Mr. Goffi was appointed as third Laboratory Assistant and joined on the 15th October 1906. The services of a Hospital Assistant have also been secured.

82. Work has, as usual, been carried out at Muktesar and Bareilly. Numerous important buildings have been completed, such as the Mallein and Tetanus laboratories and stables for Tetanus and Glandered horses. The machinery and engines are now all accommodated in one building, so that two engines and centrifuges are available and the risk of breakdown is greatly diminished; other necessary machinery is also being connected up.

83. The various matters connected with the working of the laboratory have been successfully administered during the year. Fodder, owing to the

increased number of animals kept, has been a difficulty but is being arranged for. The Forest reserve has been carefully managed.

84. *Serum preparation.*—There is again a marked increase in the quantity of anti-rinderpest serum of which 467,993 doses were prepared against 211,407 doses last year. The demand for Anthrax serum has considerably decreased, 15,-80 doses were therefore prepared which was more than sufficient to meet the demand. Hæmorrhagic Septicæmia serum on the other hand has been required in greater quantity, so that 88,875 doses were made against 15,470 in the previous year. Last year, 3,407 doses of Mallein were prepared whilst this year's outturn was 11,276 doses. An antitoxin for the prevention of Tetanus has been prepared for the first time this year, 7,540 doses being made. In addition to this, 17,869 doses of protective vaccines and serum for Charbon Symptomatique (Black Leg) have been prepared.

85. *Rinderpest.*—The amount of this serum issued to Superintendents of the Civil Veterinary Department, is more than double that required last year. The following table gives the figures and results of the use of this serum in the field, the figures being supplied by the various Superintendents and others using it. From this it will be seen that the results have been excellent. The figures relating to the number of deaths of animals which died of the disease after inoculation are only approximate, being furnished in most cases by outside officials. The mortality after inoculation, however, is small and the good results obtained under present conditions are undoubted according to the reports received. No better proof of this can be advanced than the fact that the method is yearly becoming more popular :—

Province.	Number of outbreaks.	Number of animals inoculated.	Number died after inoculation.	Percentage of mortality.
Punjab and North-West Frontier Province ...	329	93,489	47	·05
Bengal	103	10,367	57	·55
United Provinces	190	11,669	2	·01
Central Provinces	141	7,816	26	·33
Madras	288	11,043	40	·36
Bombay	79	31,415	651	2·07
Eastern Bengal and Assam	142	27,220	67	·24
Burma	36	3,617	13	·32
Sind, Baluchistan and Rajputana	5	507	3	·59
Total	1,313	197,143	903	·45
Last year	910	124,015	383	·30
Difference	+403	+73,128	+520	+·15

86. *Anthrax.*—It has been already shown that the demand for Anthrax serum has considerably decreased. This disease is difficult to diagnose at present, the staff of Veterinary Surgeons available for the purpose being so extremely small and reports of outbreaks being received so late. It appears probable that in former years Hæmorrahagic Septicæmia may have been treated as Anthrax. Far more care is now exercised in diagnosis and hence the decrease in the demand for Anthrax serum. The following table gives the results abstracted from the tables supplied by the various Superintendents who used

the serum during the year. The mortality after inoculation is only approximate for the reason previously mentioned :—

Province.	Number of outbreaks.	Number of cattle inoculated.	Number died after inoculation.	
				Per cent.
Bengal	3	51	...	...
United Provinces	24	2,207	...	...
Madras	105	8,856	1	·01
Eastern Bengal and Assam	5	1,490	3	·20
Total	137	12,604	4	·03
Last year	248	25,910	68	·26
Difference	—111	—13,306	—64	—·23

87. *Hæmorrhagic Septicæmia.*—This serious disease is very prevalent at certain seasons of the year and causes serious losses. As will be seen from the following table, the disease is so far shown to be most prevalent in the Punjab. Efforts are being made to protect animals at the critical periods in villages where the malady is most prevalent. The following are the figures showing results so far as is known, extracted from the reports of the various Superintendents. The same remarks apply to them as to other sera :—

Province.	Number of outbreaks.	Number of animals inoculated.	Number died after inoculation.	
				Per cent.
Punjab and North-West Frontier	97	30,897	17	·05
United Provinces	52	4,153	...	...
Madras	37	679	...	...
Eastern Bengal and Assam	1	376	...	...
Total	187	36,105	17	·04
Last year	123	13,451	14	·10
Difference	+64	+22,654	+3	—·06

88. *Charbon Symptomatique.*—Two kinds of vaccine and a serum have been prepared for the protection of animals against this disease. Nine hundred and thirty doses of the ordinary 1st and 2nd vaccines were issued to Superintendents for trial during the year but, so far, no reports have been received as to the results obtained from their use. It is not so convenient as the single vaccine obtainable and known as Blacklegoids which has been used in 4,911 cases with apparently good results. The double vaccine is not very suitable for India owing to the time required to carry out protection with it.

89. *Tuberculine.*—Only 40 doses of this material have been asked for during the year.

90. *Tetanus antitoxin.*—This antitoxin has been prepared for the first time at the laboratory this year and 22,164 c.c. are ready for testing. It will prove very useful in places where Tetanus is prevalent after injuries and operations, Bombay for instance. So far the demand has been small but probably it will be required in moderate quantity as the operations of the Department extend.

91. *Mallein.*—The demand for Mallein increased considerably, 7,220 doses were asked for. The supply from outside sources has now been discontinued.

92. *Cost of serum.*—Calculated on the total expenditure of the laboratory, the cost of serum, per dose, is only 3 annas 8 pies which is very cheap comparatively.

93. In addition to the administration and general routine work, such time as has been available has been devoted to research work. It has been ascertained that serum kept at Karachi for two years had lost 55 to 60 per cent. of its protective power. An opportunity was taken to inoculate an elephant with a large dose of rinderpest blood to ascertain whether she would take the disease. The result was negative, which proves that she possessed either natural or acquired immunity.

94. Spirochætosis is reported in cattle. As opportunities offered, Piroplasmosis and Trypanosomiasis in bovines was studied.

95. Some experiments in the treatment of Trypanosomiasis (surra) by the administration of Atoxyl were carried out; further experiments are required in this direction. The susceptibility of the Indian elephant to surra (equine) was tested and the results point to the conclusion that old elephants have considerable or total immunity to the disease.

96. Experiments were also made to ascertain whether equine and Cameline Surra are due to the same Trypanosoma, but are not conclusive; the evidence points to the possibility of their being due to different organisms.

97. A number of papers on the subject of Tropical diseases have been published during the year. It will be seen that the work done has been very great and valuable, and the results reflect great credit on Dr. Lingard and his Assistants.

Government Cattle Farm, Hissar.

98. The following note has been written by Colonel J. W. A. Morgan :—This is the 8th year that the Farm has been in charge of the Department and its further retention for a period of 4 years has recently been sanctioned by the Government of India.

99. The rainfall for the third year in succession was very scanty, and the Barani and hay crops failures. The stock under these conditions have to be fed almost entirely on fodder obtained from the cultivated lands: this entails a considerable increase of work on the whole establishment.

100. Slight outbreaks of Charbon Symptomatique and foot and mouth disease occurred but by careful supervision and treatment they were kept in check and the loss was small. It is difficult to prevent these outbreaks as there are several public roads through the Bir along which village cattle are constantly passing, and which must be used by our own cattle when going to and fro to their various grazing grounds.

101. *Breeding herd—Cows.*—(Table XVI) There were 1,038 cows present on 31st March 1907, an increase of 149 over the previous year. They are all obtained from heifers bred on the farm. One hundred and twelve cows were sold as unfit from age and other causes for brood purposes, 2 destroyed for incurable disease and 10 died. The programme laid down for the breeding herd has limited it to 1,200 head, so that by March 1908 it should reach its maximum. There were 736 female and 315 young male stock present at the end of the year and 582 calves were born. Fifty-two young stock were sold as not up to standard and unfit for retention on the farm. It is highly satisfactory to note that it has only been necessary to cast this small number, as it clearly shows how rapidly the herd is being graded up to a uniform type.

102. *Herd bulls.*—Nineteen were present against the same number last year. They are all bred on the farm and are of uniform size and colour. The present number is insufficient but as high class bulls are unobtainable in the open market, it was decided to carry on with the present number until the young bulls coming on are fit for service.

103. *Supernumerary bulls.*—Ninety-nine bulls were supplied to the districts of the Punjab against 31 last year. This was a magnificent batch and they are much appreciated by breeders in the districts.

104. *Mules.*—Two-hundred and twenty-six were present against 263 last year. Ninety-six were issued to the service, 42 were purchased and 17 born on the farm during the year. It is extremely doubtful whether the farm will ever be able to work up to the standard number, *viz.*, 400, as young mules of a suitable stamp are unobtainable in the open market.

105. *Donkey stallions*—Two donkey stallions and 3 donkey colts bred on the farm have been brought on the strength during the year, making a total of 5 donkey stallions present on the 31st March 1907.

106. *Donkey colts.*—Fifty-five were present last year against 53 this year. Eighteen colts were born on the farm and 3 purchased. Ten donkey stallions were issued to the Army Remount Department and District Boards and 5 transferred to donkey stallions.

107. *Pony stallions.*—One remains—the same as last year.

108. *Donkey mares.*—Seventy-nine were present against 62 last year. The increase is due to 12 mares being transferred from zebroid breeding and 10 fillies bred on the farm being transferred to brood mares. Two mares were sold and 3 died. Sixteen fillies are present against 19 last year, 9 were born on the farm, 10 transferred to brood mares and 2 died.

109. This branch of the farm is a complete success and it will probably be necessary to still further increase the donkey stock as an officer lately deputed to the Continent of Europe and Cyprus finds it difficult to purchase donkeys of the stamp bred on the farm.

110. *Zebra stallions.*—Only one stallion now remains, the other was found useless for stud purposes and was presented to the Zoological Gardens at Lahore. Two zebrules were born during the year; they are both fillies of a very fair stamp, bay in colour, with zebra markings and quicker and more active in their movements than a mule.

111. Owing to the fact that these experiments have not proved as successful as it was anticipated, I have reduced the number of mares to 4 donkey and 18 pony, as I consider this number sufficient to carry on the experiment.

112. *Pony mares for mule-breeding.*—35 were present against 38 last year and 17 mule foals were born.

113. *Sheep.*—Considerable progress has been made with sheep-breeding. Two hundred and forty-six ewes and 4 rams (2 Dumbas and 2 Merinos) were present. The lambs were sold at Rs. 2-10 0 each and the wool realized Rs. 38-8-0 per maund.

114. *Cultivation.*—Great improvements have been effected under this head during the year. Large areas have been levelled, brought under flow irrigation and new water courses made. This extension of the cultivation was absolutely necessary to ensure a plentiful supply of fodder during scanty years.

115. *Buildings and machinery.*—The whole of the machinery has been completely overhauled and where necessary is being replaced by new machines. Dutch barns have been erected at the various farms and new stallion stables at the Home Farm.

116. A Committee which assembled in February last valued the entire farm, stock, buildings, land, etc., and a new system of accounts was introduced. This has supplied a long felt want, as it places the farm on a true commercial basis and enables the Department to approximately calculate profit and oss under each head and show at a glance the total assets, etc.

117. Table XVIII shows the expenditure of the farm to have been Rs. 116,190-15-10, and the receipts Rs. 91,357-3-7, and the valuation of the stock, etc., at Rs. 264,850-4-6, against Rs. 125,251-11-0, Rs. 84,919-4-1, and Rs. 254,057-12-6 respectively, last year. This is a distinct all round improvement on last year's figures. Some years, however, must elapse before the heavy expenditure on improving lands, etc., can be reduced and receipt from the full outturn of stock, as laid down in the programme, can be worked up to.

118. Owing to the heavy weeding of the stock by the Committee which sat in December 1901, the outturn of Siege Train bullocks next year will be *nil*, but the year after and following years, the maximum should be reached.

119. Owing to the failure of the barani crops and hay harvest, the year has been a particularly trying one and I consider that Captain Farmer deserves great credit for his excellent management of the farm and for the extraordinary improvement that is noticeable amongst all classes of stock.

PART C.—GENERAL.

Expenditure of the Department.

120. The total cost of the Department, both Imperial and Provincial (Table XIX) amounts to Rs. 15,94,929-14-0 against Rs. 12,81,243-2-6, last year, showing an increase of Rs. 3,13,686-11-6. This includes figures furnished by the Comptroller, India Treasuries, in regard to Imperial grants as well as expenditure incurred by Provincial Governments furnished by Accountants-General. The increases are mainly due to the expansion of the Bacteriological Laboratory at Muktesar and the Hissar Cattle Farm; the increase of the Subordinate Veterinary establishment in almost all provinces, and the addition of the accounts of Eastern Bengal and Assam and the Veterinary Officer investigating camel diseases, in this year's expenditure.

121. The recast of the different headings in this Table was sanctioned by the Government of India but some of the Accountants-General who have not been able to adopt them during the year under report, state that the revised classification will be introduced with effect from the accounts of 1907-08. It is hoped, however, that when the revised Table is universally adopted, more accurate figures will be available in future years.

General remarks.

122. The progress made in nearly every department of our work is considerable. The buildings and equipment at Veterinary Colleges have been further improved, especially in the Punjab and Bombay, the latter having been completely transformed into a sound working institution.

123. As remarked last year, uniform progress in the organization of the Department is practically impossible owing to there being no uniform method of working. General improvement has, however, taken place, especially in the Punjab. A number of new hospitals and dispensaries has been opened during the year. The number of the subordinate staff has been increased so far as possible. Horse and mule-breeding continue satisfactory. The work done in the Laboratory has been very heavy and satisfactory, the outturn of serum having been very materially increased. Greater numbers of outbreaks of contagious disease have been attended and incontact animals inoculated.

124. I regret, however, that owing to the resignation of Mr. Montgomery, little progress has been made in the important subject of camel diseases.

H. T. PEASE, *Colonel,*

Inspector-General,

Civil Veterinary Department.

SIMLA,

The 30th September 1907.

TABLE I.

Showing the main results of Veterinary Colleges and Schools during 1906-07.

Veterinary Colleges and Schools.	Name of course of instruction if more than one course followed.	Number of students. Admitted during the year. Scholarship-holders.	Admitted during the year. Others.	Passed final examination during the year.	Failed to pass final examination.	Remaining under instruction at end of year. In ordinary course.	Remaining under instruction at end of year. Instruction prolonged by reason of failure to pass.	Students admitted during the year, classed by educational qualifications. Matriculated with higher qualification.	Knowing some English, but not matriculated.	Knowing no English or very little English.	Receipts. From fees.	From other sources.	Total.	Expenditure. Salaries of Instructing Staff.	Other expenses.	Total.	Employment of students who passed out during the three years preceding. Total number passed.	In service of Government or Local Bodies.	In service of other bodies or institutions.	In private practice.	Number unemployed.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		No.	No.	No.	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	No.	No.	No.	No.	No.	
Bombay Veterinary College	Diploma course 3 years in English.	7	(a) 42	16	4	102	9	17	32	...	5,220	2,500	7,720	30,238 2 3	12,317 11 0 78,916 4 10 (cost of building new College in part.)	1,21,472 2 1	45	(b) 28	5	5	6	
Punjab Veterinary College...	Diploma or 3 years course in Urdu.	9	109	(c) 65	15	259	(d) 28	19	66	33	6,222	4,128	10,350	50,793 0 0	30,481 0 0	81,274 0 0	147	* 136	9	Nil.	Nil.	* Two died.
Madras ,, ,, ...	Diploma course 3 years in English.	10	† 13	12	9	60	7	16	7	...	...	...	...	...	...	...	...	...	...	...	...	† Tuition given free.
Burma Senior class	2 years course in Burmese.	...	...	19	5	5	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
,, Junior class	...	17	...	...	...	(e) 30	...	...	...	17	...	...	...	3,536 0 0	8,352 5 9	11,888 5 9	19	19	...	...	...	
Bengal	Diploma course 3 years in English.	29	18	27	4	60	5	3	44	...	...	..	...	15,270 0 0	2,176 2 11	17,446 2 11	30 ‡	26	3	...	...	‡ One is dead.
Total ...	...	72	182	139	37	516	54	55	149	50	11,442	6,628	18,070	99,837 2 3	1,32,243 8 6	2,32,080 10 9	241	209	17	5	6	

(a) Out of 42, ten are Native State and Local Board students.
(c) Including 2 who passed in June 1906.
(e) Includes 13 remaining from last year.

(b) One of 1904 died; 10 are in temporary employment.
(d) Those who are dismissed from the College after failure, are excluded.

TABLE II.

Showing number of deaths from Contagious Diseases amongst Animals during the year 1906-07.

Province.	Equines.						Bovines.							Others.							Remarks.
	Glanders.	Anthrax.	Surra.	Dourine.	Other contagious diseases.	Total.	Rinderpest.	Foot and Mouth disease.	Hæmorrhagic septicæmia.	Black quarter.	Anthrax.	Other contagious diseases.	Total.	Rabies.	Plague.	Hæmorrhagic Septicæmia.	Gillar.	Anthrax.	Other contagious diseases.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
United Provinces	25	13	20	...	1	59	1,254	804	1,069	113	857	264	4,361	12	17	10	18	...	...	57	* Rot.
Punjab (a)	7	...	19	...	12	38	7,971	311	6,814	1,119	210	574	16,999	10	...	...	201	53	74	338	† Distemper ... 23
Sind	2	...	57	...	...	59	...	3	...	...	...	13	16	4	...	...	...	...	*63	67	Influenza ... 23
Rajputana	...	...	...	...	...	...	356	2	...	...	...	7	365	6	...	...	...	...	...	6	Other diseases 1,138
Bengal	876	11	10	2	229	1,127	12,041	3,133	735	388	456	43,104	59,857	25	...	4	...	...	†1,164	1,243	1,164
Bombay	49	1	154	...	22	226	25,416	200	685	372	183	91	26,963	...	...	...	...	...	...	...	‡ Distemper ... 4
Madras	...	20	...	...	...	20	31,611	2,794	9,086	4,168	12,082	53,798	1,13,539	...	...	...	...	...	...	...	Strangles ... 1
Central Provinces	1	2	3	...	12	18	8,531	385	609	53	736	301	10,615	...	...	...	...	...	‡19	19	Tetanus ... 1
Burma	...	...	...	...	...	(b)	33,106	3,404	...	...	(c)	...	36,510	...	...	...	...	...	...	...	Hydrophobia ... 3
North-West Frontier Province	...	...	...	...	2	2	651	89	670	193	...	...	1,593	...	...	...	...	...	§1	1	Other contagious diseases ... 10
Eastern Bengal and Assam	1	1	...	...	33	35	20,873	10,172	4,616	491	1,576	18,241	68,311 (d)	...	...	...	...	...	402	402 (e)	19
Total ...	960	48	263	2	311	1,584	1,41,810	21,297	24,284	6,887	16,100	1,16,293	3,39,113	87	17	14	219	53	1,743	2,133	§ Tetanus.

(a) The figures for equines only relate to non-selected districts, the municipality of Lahore and the Rawalpindi-Kohala Tonga road, except where cases are treated in Veterinary Hospitals and Dispensaries in selected districts.
(b) There is no system of registration in force in Burma. Military Police register 38 deaths, *viz.*:—Glanders 2, Anthrax 5, Surra 29, Dourine 1, other contagious diseases 1.
(c) The number (4,205) reported by Burma has been omitted in this Return as the figures are unreliable, the Superintendent remarking as follows :—" These diseases are not differentiated by villagers, but are considered as different manifestations of anthrax."
(d) Includes 12,342 for which no details are available.
(e) Includes 35 miscellaneous, 366 goats and 1 elephant, total 403.

TABLE III.

Showing results of preventive inoculation during the year 1906-07.

Province.	Name of disease against which inoculation was carried out.	Method of inoculation followed.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
				Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
1	2	3	4	5	5	7	8	9	10	11	12	13	14
United Provinces	Rinderpest.	Serum alone.	182	...	796	...	...	11,669	...	...	...	...	
Punjab			289	...	4,134	...	...	81,008	...	...	35	...	
Sind			...	...	...	...	...	...	...	...	...	...	
Rajputana			9	...	134	...	...	507	...	...	3	...	
Madras*			...	...	...	...	...	11,043	...	...	...	...	* Other particulars not furnished.
Bengal			194	...	4,443	...	...	24,074	...	...	8	..	
Bombay			15	...	24,363	...	...	39,932	...	...	670	...	
Central Provinces			198	...	4,742	...	...	11,414	...	...	12	...	
Burma			37	...	493	...	...	3,617	...	...	20	...	
North-West Frontier Province ...			39	...	533	...	...	12,361	...	...	13	...	
Eastern Bengal and Assam ...			69	...	2,748	...	...	18,308	...	...	169	...	
Total ...	..	...	1,032	...	42,386	...	...	2,13,933	...	...	1,006	...	
United Provinces	Anthrax.	Serum alone.	24	...	481	...	...	2,207	...	...	...	...	
Punjab			...	...	...	...	...	...	...	...	...	...	
Sind			...	...	...	...	...	...	...	...	...	...	
Rajputana			...	...	...	...	...	...	...	...	...	...	
Madras†			...	...	...	...	...	8,856	...	...	...	...	† Particulars not furnished.
Bengal			3	6	1	...	58	51	...	...	...	...	
Bombay			...	...	...	...	...	...	...	...	...	...	
Central Provinces			...	...	...	...	...	...	...	...	...	...	
Burma			...	...	...	...	...	...	...	...	..	...	
North-West Frontier Province ...			...	...	...	...	...	...	...	...	...	...	
Eastern Bengal and Assam ...			3	...	51	...	...	181	...	...	...	...	
Total ...	...	...	30	6	533	...	58	11,295	...	...	...	.	
United Provinces	Hæmorrhagic Septicæmia.	Serum alone	52	...	471	...	...	4,153	...	...	...	...	
Punjab			85	...	992	...	...	25,951	...	...	11	...	
Sind			...	...	...	...	...	...	...	...	...	...	
Rajputana			...	...	...	...	...	...	...	...	...	...	
Madras‡...			...	...	...	...	...	679	...	...	...	...	‡ Other particulars not furnished.
Bengal			...	...	...	...	...	...	...	...	...	...	
Bombay			1	...	...	...	...	60	...	...	...	...	
Central Provinces			1	...	10	...	...	105	...	...	...	...	
Burma			...	...	...	...	...	...	...	...	...	...	
North-West Frontier Province ...			12	...	150	...	...	4,946	...	...	4	...	
Eastern Bengal and Assam ...			1	...	7	...	...	376	...	...	...	...	
Total ...	...	...	152	...	1,630	...	...	36,270	...	...	15	...	
United Provinces	Black quarter.	Black legoid.	8	...	93	...	...	260	...	...	...	...	
Punjab			81	...	...	...	...	3,151	...	...	5	...	
North-West Frontier Province ...			7 villages.	...	...	...	...	1,500	...	...	...	...	
Total ...	...	...	96	...	93	...	...	4,911	...	...	5	...	
GRAND TOTAL ...	...	...	3	6	44,642	...	58	2,66,409	...	...	1,026	...	

TABLE IV.

Showing the number of animals treated and castrated by Veterinary Assistants on tour during 1906-07.

Province.	Number of villages visited.	Number of Veterinary Assistants employed.	Castrations performed.				Treated for contagious diseases.				Treated for non-contagious diseases.				Total number of cases treated and castrations performed.	Remarks.
			Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
United Provinces	10,373	64	160	31	9	200	116	23,835	812	24,763	7,863	11,532	1,720	21,115	46,078	
Punjab	6,288	73	348	208	8	564	208	18,715	1,737	20,660	5,493	8,746	2,094	16,333	37,557	
Sind	112	6	12	3	...	15	8	425	56	489	606	416	430	1,452	1,956	
Rajputana	715	2	6	3	...	9	...	1,108	...	1,108	32	197	48	277	1,394	
Bengal	3,611	32	66	147	12	225	212	17,200	136	17,548	9,5 9	12,292	1,465	23,266	41,039	
Eastern Bengal	1,225	9	11	52	33	96	16	6,293	11	6,320	933	3,376	303	4,612	11,028	
Bombay	1,385	26	20	17	2	39	29	8,073	27	8,129	460	4,671	191	5,322	13,490	
Madras	...	9	90	303	6	399	...	...	...	...	...	...	6	6	405	
Central Provinces	3,083	13	6	5	3	14	13	7,799	27	7,839	308	4,376	116	4,800	12,653	
Burma	13,968	(a) 77	...	...	...	...	4	8,754	...	8,758	1,091	25,538	52	26,681	35,439	
North-West Frontier Province	897	9	192	83	18	293	92	4,761	1,336	6,189	1,379	2,289	529	4,197	10,679	
Total ...	41,657	320	911	852	91	1,854	698	96,963	4,142	1,01,803	27,674	73,433	6,954	1,08,061	2,11,718	

(a) Includes one casualty.

TABLE V.

Showing number of Animals treated at Veterinary Hospitals and Dispensaries during the year 1906-1907.

Provinces.	Number of Veterinary Dispensaries.	Number of Veterinary Assistants employed at Dispensaries.	IN-PATIENTS. Remaining on 1st April.			Admitted during the year.			Total.			Discharged during the year.			Balance on 31st March.			OUT-PATIENTS. Number treated during the year.			Average daily attendance.			Total number of in and out-patients treated during the year.				Receipts.	Expenditure.
			Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
United Provinces ...	22	22	37	15	11	1,095	452	216	1,132	467	227	1,095	451	220	37 (c)	16 (c)	7 (c)	7841	4,250	2,502	13·2	11·6	6·7	5,973	4,717	2,729	13,419	22,959 0 0	18,052 0 0
Punjab ...	91	90	423	185	55	1,426	663	156	1,849	848	211	1,808	826	193	41	22	18	27,041	35,795	9,269	...	...	...	28,849	36,621	9,462	74,932	24,590 0 0	20,193 0 0
Sind ...	6	6	15	4	4	438	406	157	453	410	161	442	404	157	11	6	4	3,797	3,877	2,229	...	...	...	4,250	4,287	2,390	10,927	51,208 14 2	32,944 11 2
Rajputana ...	2	2	...	...	...	13	13	1	13	13	1	12	12	1	1	1	...	138	261	198	...	...	...	151	274	199	624	2,869 15 11	1,088 3 11
Bengal (a) ...	24	24	78	157	3	1,223	2,036	144	1,301	2,193	147	1,231	1,979	142	70	214	5	9,184	16,332	3,629	52	105	27	10,435	18,525	3,776	32,736	36,378 12 6	29,495 3 9
Eastern Bengal and Assam.	8	8	2	2	4	55	545	39	57	547	43	57	532	41	...	15	2	1,651	3,183	1,397	8·80	12·43	6·72	1,708	3,730	1,449	6,878	7,417 5 5	7,345 3 8
Bombay ...	20	20	22	27	3	568	774	155	590	801	158	550	770	151	40	31	7	6,031	26,936	5,831	...	...	...	6,621	27,737	5,989	40,347	54,768 15 0	50,267 8 9
Madras (b) ...	6	9	29	19	19	1,093	839	738	1,120	858	756	1,085	615	702	38	32	23	6,065	10,175	2,484	51	86	35	7,187	11,033	3,240	21,460	15,421 1 3	24,586 11 4
Central Provinces	46	46	7	5	1	178	172	13	185	177	14	174	170	14	11	7	...	9,505	23,847	8,020	168·32	270·99	134·02	9,690	24,024	8,034	41,748	41,749 1 11	50,576 8 4
Burma ...	77	77	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,619	5,817	254	21·02	75·54	3·29	1,619	5,817	254	7,690	.....	(e)1,47,037 0 0
North-West Frontier Province.	13	13	161 (d)	9 (d)	14 (d)	767	139	93	928	148	107	582	116	79	346	32	28	6,672	6,746	2,377	...	...	...	7,439	6,885	2,470	16,794	4,083 10 0	3,968 10 0
Total ...	315	317	774	423	114	6,856	6,039	1,712	7,630	6,462	1,825	7,036	6,075	1,700	595	376	94	76,494	1,37,219	38,190	...	...	...	(b) 83,922	(b) 1,43,650	(b) 39,983	2,67,555	3,06,446 12 2	3,85,554 12 11

(a) Some figures in columns 4, 5 and 6 do not correspond with last year's figures owing to some clerical mistakes in last year's report.
(b) The opening balances in columns, 4, 5 and 6 do not agree with the closing balances in columns 16, 17, 18 of last year's report. Differences are due to exclusion of deaths from the number discharged.
(c) These figures are not included in columns 25 to 28 as they represent the number of animals which remained under treatment after 31st March 1907.
(d) These figures are not included in columns 25 to 28.
(e) Entire cost of Department in Burma has been shown by Superintendent.

TABLE VI.

Abstract showing Receipts and Expenditure of Veterinary Dispensaries during 1906-1907.

Province.	Receipts.							Expenditure.						Balance.	Remarks.
	Last year's balance.	By Local Fund grants.	By Government grants.	By Municipal contribution.	By fees.	By other sources.	Total.	Pay.	Travelling allowances.	Medicines, instruments, etc.	Furniture etc.	Contingencies.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
United Provinces ...	3,980 0 0	14,700 0 0	728 0 0	1,455 0 0	514 0 0	1,582 0 0	22,959 0 0	10,795 0 0	947 0 0	3,728 0 0	1,208 0 0	1,374 0 0	18,052 0 0	4,749 0 0 (c)	
Punjab ...	...	9,664 0 0	8,346 0 0	1,933 0 0	4,146 0 0	501 0 0	24,590 0 0	9,868 0 0	...	7,922 0 0	1,112 0 0	1,291 0 0	20,193 0 0	...	
Sind ...	18,061 5 2	21,100 0 0	5,061 15 9	3,190 0 0	3,715 11 0	79 14 3	51,208 14 2	13,485 4 3	751 15 0	3,192 13 5	90 14 3	15,423 12 3	32,944 11 2	18,264 3 0	
Rajputana (b) ...	1,102 15 11	360 0 0	500 0 0	480 0 0	...	427 0 0	2,869 15 11	991 5 10	...	56 11 7	...	40 2 6	1,088 3 11	1,723 9 5 (d)	
Bengal (b) ...	2,515 4 6	19,457 10 3	5,985 11 4	2,532 15 7	1,395 11 0	4,591 7 10	36,378 12 6	15,117 0 1	3,079 9 0	5,760 3 9	1,033 9 0	4,504 13 11	29,495 3 9	6,883 8 9	
Eastern Bengal and Assam (e).	800 5 0	3,722 8 11	1,729 0 6	1,406 0 0	42 7 0	156 0 0	7,857 5 5	2,760 9 6	937 3 2	1,366 13 0	366 0 0	1,123 10 0	7,685 3 8 (f)	172 1 9	
Bombay (a) ...	44,820 3 7	24,754 12 4	23,534 5 2	10,547 0 0	4,259 8 8	2,152 1 4	1,09,767 15 1	26,762 2 4	4,231 11 6	6,864 2 11	4,750 6 9	23,225 12 9	65,834 4 3	43,933 10 10	
Madras ...	9,080 4 8	3,513 8 5	2,371 6 7	...	8,241 13 3	2,409 8 10	25,616 4 9	15,545 3 9	368 8 7	...	...	...	15,913 12 4	...	Information not furnished.
Central Provinces (b)	...	29,706 1 3	700 0 0	9,681 7 6	807 7 0	854 2 2	41,749 1 11	28,612 1 10	5,109 10 8	10,710 7 2	945 14 6	5,198 6 2	50,576 8 4	—8,827 6 5	
Burma ...	...	...	...	...	...	...	...	87,910 0 0	30,590 0 0	5,913 0 0	46 0 0	22,578 0 0	1,47,037 0 0	...	As submitted by Accountant-General, Burma.
North-West Frontier Province (b).	1,779 5 2	...	1,733 4 10	571 0 0	...	...	4,083 10 0	2,469 4 10	...	1,149 11 11	69 9 8	280 0 0	3,968 10 5	...	
Total ...	81,939 12 0	1,36,978 9 2	50,589 12 2	31,796 7 1	23,122 9 11	12,752 13 53	3,27,080 15 9	2,14,316 0 5	46,015 9 11	46,663 15 9	9,622 6 2	75,039 9 7	3,92,788 9 10	66,898 11 4	

(a) These figures differ from the closing balance as given in the report for 1905-1906 as they have been subsequently corrected.

(b) Differs from the closing balance shown in the report for 1905-1906.

(c) The unexpended balance of Rs. 158, at Cawnpore, lapsed on the termination of the official year.

(d) Some of the unexpended balance lapsed.

(e) 52—15-5 was shown as balance on 31st March 1906 in the Report for 1905-1906, whereas now the opening balance is shown Rs. 800-5-0.

(f) No details of Rs. 1,131 furnished.

TABLE VII.

Showing total strength of Subordinate Veterinary Staff employed during the year 1906-1907.

Province.	How occupied.	Whether paid from Provincial or Local Funds.	Veterinary Inspectors.	Veterinary Assistants.	Subordinate Staff not included in previous columns.	Remarks.
1	2	3	4	5	6	7
United Provinces ...	In Schools and Colleges ...	...	...	...	...	
	In Dispensaries ...	Local ...	...	11	8	
		Provincial ...	...	3 (a)	...	
		Private ...	...	1	...	
	On other work ...	Local ...	8 (c)	54	19	
		Imperial ...	...	2 (b)	...	
	In Dispensaries and other works...	Local ...	...	10	(i)	
Punjab	In Schools and Colleges ...	Provincial ...	2	7	57	
	In Dispensaries ...	Provincial ...	12	18*	...	* 2 Vacancies.
				87†	...	† 7 vacancies.
	On other work					
Bombay ...	In Dispensaries	Provincial and Local.	...	25	57	
	On other works	Provincial ...	...	2	...	‡Includes one shoeing Instructor.
	Schools and Colleges ...	.....	3	...	4‡	
Sind	In Dispensaries	Local Funds ...	...	6	30	
	On other work					
Rajputana	In Dispensaries	Local Funds ...	...	2	4	
	On other work					
North West Frontier Province.	In Dispensaries (Hospital) ...	Provincial ...	2	4	...	
				10§		§1 Attached to office
	On other work					
	Vacancies on 31st March 1907 ...		...	6	...	9 Itinerating.
Burma	In Schools and Colleges ...	Provincial ...	...	1	1	
	In Dispensaries	Provincial ...	...	35	...	One attached to office.
		Local Funds ...	...	36‖	...	‖ Includes 1 casualty.
	On other work	Provincial ...	7	...	...	
Bengal	In Schools and Colleges ...	Provincial ...	6 (d)	3 (e)	...	
	In Dispensaries	Local ...	...	20	2	
	On other work	Provincial ...	9 (f)	6 (g)	...	
	On other work	Local ...	...	11	4 (h)	
Eastern Bengal and Assam	In Dispensaries	Local ...	...	5	...	
	Itinerating	Local ...	...	3	...	
	In Dispensary and Itinerating ...	Local ...	...	1	...	
	Itinerating	Provincial ...	...	2	...	
	Itinerating	Local ...	1	...	...	
Central Provinces ...	In Dispensaries	Provincial ...	...	1	1	
		Local ..	...	23	57	
	On other work	Provincial ...	2	...	...	
		Local ...	...	13	...	
Berar	In Dispensaries	Provincial ...	...	1	...	
		Local ...	...	21	22	
	On other work	Provincial ...	2	...	...	
		Local ...	...	1	...	
Madras	Itinerating and attending Cattle Fairs and Shows.	Provincial ...	...	6	...	
	In charge of Hospitals ...	District Boards ...	...	2	...	
		Society for the Prevention of Cruelty to Animals, Bellary.	...	1	...	
		Private Bodies ...	...	1	...	
		Provincial ...	...	1		
	Colleges and Schools ...	Provincial ...	...	4	...	1 Assistant Principal. 3 Lecturers.
	Total ...	.....	54	446	266	

(a) Includes 1 Veterinary Assistant in charge of Depôt at Lucknow, and 1 attached to the 2nd Superintendent.
(b) Two Veterinary Assistants seconded at Muktesar Laboratory paid from Imperial funds.
(c) Paid from Provincial funds.
(d) Teaching Staff 1 Assistant Principal and 5 Lecturers.
(e) 1 Hospital Surgeon, 1 Veterinary Overseer and 1 Veterinary Assistant.
(f) 2 Departmental and 7 Glanders Inspectors.
(g) 1 Veterinary Assistant employed in the Khurda Government Estate, 1 by Deputy Commissioner, Angul and 4 Staff Veterinary Assistants.
(h) 2 employed by Pinjra pole societies of Calcutta and Hazaribagh and 2 by the Calcutta Municipality.
(i) Includes 7 Native teachers.

N.B.—The figures furnished by Superintendents for Column 6 include the clerical and menial staff attached to their offices.

TABLE VIII.

Return of Stud Bulls for the year 1906-07.

Provinces.	Property of Government.					Property of Local Boards.					Remarks.
	Number on 1st April 1906.	Obtained during the year.		Casualties during the year.	Balance remaining on 31st March 1907.	Number on 1st April 1906.	Obtained during the year.		Casualties during the year.	Balance remaining on 31st March.	
		Number.	Average price paid.				Number.	Average price paid.			
1	2	3	4	5	6	7	8	9	10	11	12
United Provinces	11	...	...	(a) 6	5	(b) 3	...	...	...	3	
Punjab	(c)...	...	...	...	...	(d) 255	140	...	39	356	
Sind	...	...	...	...	...	...	...	...	...	...	
Rajputana	...	...	...	...	...	...	...	...	...	...	
Bengal	...	...	...	...	...	...	...	...	...	...	
Bombay	...	...	...	...	...	3	9	98·88	1	11	
Madras	6	...	...	...	6	...	...	...	...	...	
Central Provinces	4	5	Farm Produce	(e) 1	8	...	...	...	...	...	
Burma	...	...	...	...	...	...	...	...	...	...	
North-West Frontier Province ...	...	...	...	...	...	6	5	...	...	11	
Eastern Bengal and Assam ...	(f) 3	...	...	2	1	(g) 5	...	...	...	5	
Total ...	24	5	...	9	20	272	154	98·88	40	386	

(a) Put to work.
(b) Two were omitted by Meerut District Board.
(c) and (d) In last year's report 42 shown as Property of Government were transferred to Local Bodies; and 1 was in error shown in excess as property of Local Bodies.
(e) Lent to Rao Bahadur Nirbhesingh Mandloi of Sheopur, District Hoshangabad, for breeding purposes.
(f) No stud bulls were shown as balance remaining on 31st March 1906 in the Annual Report for 1905-06, whereas 3 are now shown as balance on 1st April 1906, Property of Government.
(g) None was shown as balance on 31st March 1906 in the Annual Report for 1905-06.

TABLE IX.

Showing main results of the working of Provincial Cattle Farms during the year 1906-07.

Province.	Name of farm.	Receipts.				Expenditure.						Valuation of stock, grain and fodder remaining at close of year as detailed on reverse.				Remarks.
		Sale of animals.	Sale of produce.	Other heads.	Total.	Salaries of establishment.	Feed and keep of animals.	Cultivation expenses.	Purchase of animals.	Other heads.	Total.	Cattle.	Grain.	Fodder.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.	Rs.	Rs. A. P.	
United Provinces	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Punjab	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Bombay (Gujarat-Ahmedabad) ...	Northcote Cattle Farm, Chharodi.	8,580 0 0	234 6 9	46 0 0	8,860 9	(a) 2,769 9 1	5,343 9 4	483 12 0	...	(b) 2,823 12 6	11,419 10 11	10,659	332 13 6	2,367	13,388 13 6	
Bengal	Pusa (Government)	...	...	...	...	(c) 217 1 3	2,372 3 0	...	267 3 6	...	2,856 7 9	3,237	...	...	3,237 0 0	
	Siripur (Hathwa Raj).	...	1,196 6 5	324 0 0	1,520 6 5	569 6 3	7,458 1 0	...	1,100 0 0	823 6 6	9,950 13 9	8,750	...	...	8,750 0 0	
Central Provinces	Telau Kheri Cattle-breeding Farm.	40 0 0	...	...	40 0 0	347 0 0	1,619 0 0	...	50 0 0	1,174 0 0	3,190 0 0	10,145	...	...	10,145 0 0	
Ditto	Government cattle Breeding Farm, Pawarkhera, District Hoshangabad.	31 1 0	...	...	31 1 0	126 5 8	552 10 2	...	...	744 15 4	1,428 15 2	2,173	85 0 0	34	2,292 0 0	
Total ...	...	8,651 1 0	1,430 13 2	370 0 0	10,451 14 2	4,029 6 8	17,345 7 6	483 12 0	1,417 3 6	5,565 2 4	28,840 15 7	34,994	417 13 6	2,401	37,812 13 6	

(a) This amount includes pay for the Manager Rs. 1,233-3-7.
(b) This amount includes Rs. 1,660 as ground rent of the Farm.
(c) This does not include superior establishment entertained for other purposes.

NOTE.—See reverse for details of stock in hand at close of year.

Valuation statement of Cattle, Grain and Fodder in hand at close of the year 1906-07.

Number or quantity. No.	Quantity.	Description.	Rate.	Value.	Remarks.
	Mds.		Rs.	Rs.	
		NORTHCOTE CATTLE FARM, CHHARODI.			
		Cattle.			
3	...	Bulls	175	525	
110	...	Cows		4,400	
46	...	Heifers, 5 year old	50	2,300	
17	...	Ditto, 4 year old	35	595	
9	...	Ditto, 3 " "	25	225	
16	...	Ditto, 2 years old and under	20	320	
17	...	Female calves	12	204	
3	...	Male Stock 1 year old	50	150	
22	...	Ditto bull calves	35	770	
12	...	Bullocks	100	1,200	
255		Total ...	...	10,689	
		Grain and Fodder.	Rs. a. p.	Rs. a. p.	
...	154	Guvar crushed	1 5 0 per maund.	202 2 0	
...	15	Guvar for seed	1 2 0	16 14 0	
...	9	Bajri for seed	1 5 0	11 13 0	
...	62½	Sundhia jowari for seed	1 5 0	82 0 6	
...	16	Oil cake	1 4 0	20 0 0	
...	30,000 bundles	Kirby	2 8 0 per 100 bundles	750 0 0	
...	267,000 lbs.	Hay	6 per 1,000 pounds.	1,602 0 0	
...	90 maunds.	Guvar and kirby chaff	1 per 6 maunds.	15 0 0	
		Total ...	...	2,699 13 6	
		GRAND TOTAL ...	...	13,388 13 6	
	Mds.	PUSA FARM.			
		Cattle.			
1	...	Bull	100	100	
41	...	Cows	45	1,845	
8	...	Male Stock, 2 years old	45	360	
11	...	Ditto, 1 year old	22	242	
16	...	Ditto, calves	12	192	
6	...	Female Stock, 2 years old	20	120	
18	...	Ditto, 1 year old	13	234	
18	...	Ditto, calves	8	144	
119	...	Total ...	...	3,237	
		Grain and Fodder.			
...	...	Gram	...	...	Gram and fodder purchased every month for feed, therefore there is no stock of anything on the Farm.
...	...	Hay	...	...	
...	...	Kirby etc	...	...	
...	...	Total ...	...	...	
		GRAND TOTAL ...	...	3,237	

Valuation statement of Cattle, Grain and Fodder in hand at close of the year 1906-07.

Number or Quantity. No.	Quantity.	Description.	Rate.	Value.	Remarks.
		SRIPUR.	Rs.	Rs.	
		Cattle.			
4	...	Bulls	100	400	
61	...	Cows { 16 Montgomery	120	1,920	
		{ 45 Desi	64	2,880	
27	...	Male Stock, 2 years old	50	1,350	
10	...	Ditto, 1 year old	30	300	
11	...	Ditto, calves	20	220	
24	...	Female Stock, 2 years old	50	1,200	
8	...	Ditto, 1 year old	30	240	
13	...	Ditto, calves	15	195	
3	...	Goats	15	45	
161	...	Total ...	...	8,750	
		Grain and Fodder.			
...	...	Gram	...	...	Gram and fodder purchased every month for feed, therefore there is no stock of anything on the Farm.
...	...	Hay	...	...	
...	...	Kirby, etc.	...	...	
...	...	Total ...	...	...	
...	...	Grand Total ...	...	8,750	
		TELAN KHERI CATTLE BREEDING FARM.			
		Cattle.			
2	...	Bulls	300	600	
55	...	Cows	50	2,750	
22	...	Male Stock, 2 years old	150	3,300	
10	...	Ditto. 1 year old	100	1,000	
19	...	Ditto, calves	75	1,425	
8	...	Female Stock, 2 years old	40	320	
9	...	Ditto, 1 year old	30	270	
24	...	Ditto, calves	20	480	
149	...	Total ...	...	10,145	
		Grain and Fodder.			
...	...	Gram	...	...	
...	...	Hay	...	...	
...	...	Kirby, etc.	...	...	
...	...	Total ...	...	...	
		Grand Total ...	...	10,145	
		PAWAR KHERA DISTRICT HOSHANGABAD.			
		Cattle.			
10	...	Bulls	75	750	
20	...	Cows	25	500	
13	...	Male Stock, 2 years old	50	650	
6	...	Ditto, 1 year old	20	120	
8	...	Ditto, calves	10	80	
1	...	Female Stock, 2 years old	10	10	
5	...	Ditto, 1 year old	6	30	
11	...	Ditto, calves	3	33	
74	...	Total ...	...	2,173	
		Grain and Fodder.			
...	Mds. 55 Srs. 36	Cotton seeds	1 8 3	85	
...	102,220 pulas.	Hay	3,000 pulas per rupee.	34	
...	...	Kirby, etc.	...	...	
...	...	Total ...	...	119	
		Grand Total ...	...	2,292	

TABLE X.

Return of Horse, Pony and Donkey Stallions under Local Bodies for the year 1906-1907.

Details.	HORSE AND PONY STALLIONS UNDER LOCAL BODIES.													DONKEY STALLIONS UNDER LOCAL BODIES.							
	Horses.						Ponies.						Total Horses and Ponies.								
	Arab.	Persian.	Thorough-bred English.	Country-bred.	Australian.	Total.	Arab.	Persian.	Country-bred.	Deli.	Shan.	Total.		Italian.	Cyprian.	Country-bred (Punjabi).	Persian.	Catalonian.	Arab.	American.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Balance on 1st April 1906 ...	* 51	1	1	...	1	54	101	...	6	2	2	111	165	26	18	15	3	5	2	2	71
Increase: Purchased in India	4	...	...	2	...	6	9	...	1	...	...	10	16	...	...	2	...	...	...	...	2
Increase: Received from ...	10	...	...	...	...	10	6	...	...	...	...	6	16	...	...	5	...	...	...	...	5
Total ...	65	1	1	2	1	70	116	...	7	2	2	127	197	26	18	22	3	5	2	2	78
Decrease: Died	1	...	...	...	...	1	4	...	...	...	...	4	5	6	...	1	...	...	...	...	7
Decrease: Sold	1	...	...	...	...	1	1	...	...	...	...	1	2	1	...	1	...	...	...	...	2
Decrease: Destroyed ...	1	...	...	...	...	1	1	...	...	...	...	1	2	4	...	...	...	...	...	...	4
Decrease: Transferred to ...	8	...	...	...	...	8	9	...	...	...	...	9	17	...	...	...	...	...	...	...	...
Total decrease ...	11	...	...	...	...	11	15	...	...	...	...	15	26	11	...	2	...	...	...	...	13
Balance on 31st March ...	54	1	1	2	1	59	101	...	7	2	2	112	171	15	18	20	3	5	2	2	65
United Provinces	37	1	1	1	...	40	11	...	...	...	...	11	51	1	1	3	...	...	...	2	7
Punjab	5	...	...	...	...	5	54	...	6	...	...	60	65	10	15	14	3	5	1	...	48
North-West Frontier Province	8	...	...	...	...	8	10	...	...	...	...	10	18	4	(b) 2	3	...	...	1	...	(a) 10
Bombay	4	...	...	1	1	6	11	...	1	...	...	12	18	...	...	...	...	...	...	...	...
Bengal	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...
Madras	...	...	...	...	...	...	14	...	...	...	...	14	14	...	...	...	...	...	...	...	...
Burma	...	...	...	...	...	...	...	...	...	2	2	4	4	...	...	...	...	...	...	...	...
Total ...	54	1	1	2	1	59	101	...	7	2	2	112	171	15	18	20	3	5	2	2	65

(a) Nine were shown as balance on 31st March 1906.
(b) This includes one donkey standing at Kurram.
* These Stallions belong to Provincial Government.

TABLE XI.

Services and produce of each class of Horse, Pony and Donkey Stallions, under Local Bodies during 1906-07.

Horse, Pony or Donkey.	Province.	Stallions on Register on 31st March 1907.	Stallions actually employed at stud.		Number of mares covered.		Average number of mares covered per stallion employed at stud.		Remarks.
			Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	
1	2	3	4	5	6	7	8	9	10
Horse	United Provinces ...	40	37	32*	1,980	1,770	5·35	55·3†	* 31 were shown last year.
	Punjab	5	5	5	209	153‡	42	74·5	† 57·1 was shown last year.
	North-West Frontier Province.	8	8	4	362	271	45·25	67·75	‡ Three of the stallions were supplied at the end of the year and covered 12 mares.
	Bombay	6	5·23	5·82	222	177	42·45	30·41	The average number has been calculated accordingly.
	TOTAL ...	59	55 23	45	2,773	2,371	50	52 7	
Pony	United Provinces ...	11	13	17	483	887	37·1	52·1	
	Punjab	60	55	36	2,552	2,402	46	67	
	North-West Frontier Province.	10	10	4	316	214	31·6	53·5	
	Bengal§	1	...	...	...	...	...	...	§ No mares brought in during the year.
	Bombay	12	11·23	10·51	407	394	36·24	37·49	
	Madras	14	14	15	315	328	22	(a) 28	
	Burma	4	4	4	112	96	28	24	
	TOTAL ...	112	107·23	86	4,185	4,321	38	50·2	
Donkey ...	United Provinces ...	7	3	5	132	237	44	47·4	
	Punjab	48	52	50	2,638	3,409	51	68	
	North-West Frontier Province.	(b) 10	10	9	512	327	51·2	36·33	
	Bombay	...	...	...	...	...	...	...	
	TOTAL ...	65	65	64	3,282	3,973	50·5	62	

(a) Three stallions were since disposed of, and they covered only 18 mares. Four new stallions commenced work only in February and there had been only 10 coverings. The average is calculated for 11 stallions on 310 coverings.

(b) This contains one donkey stallion not included in the standard scale.

TABLE XII.

Showing average cost of feed, keep, attendance, etc., of Horse, Pony and Donkey Stallions during the year 1906-07.

Province.	Horse.		Pony.		Donkey.		Remarks.
	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	
1	2	3	4	5	6	7	8
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
United Provinces ...	...	254 12 0	...	243 11 0	...	159 0 0	
Punjab	273 0 0	274 0 0	256 0 0	227 0 0	160 0 0	152 0 0	
Sind	...	...	...	...	...	...	
Rajputana	...	...	...	...	...	...	
Bengal	...	...	151 4 0	157 0 0	...	...	Monthly Account Rs. 12-9-8 for 1906-1907.
Bombay	445 0 0	420 0 0	446 0 0	396 0 0	...	...	
Madras	...	...	298 6 4	286 0 0 (a)	...	...	
Central Provinces ...	...	...	...	...	...	...	
Burma	...	...	292 6 10	340 12 0	...	...	
North-West Frontier Province.	319 1 4	325 8 10	332 9 4	226 6 3	175 14 11	183 2 9	
Total ...	...	...	...	...	...	...	

(a) The total expenditure for up-keep alone of Government stallions amounts to Rs. 4,303-12-8 and this has been distributed for 15 stallions.

TABLE XIII.

Abstract of particulars regarding Horse Fairs and Shows held in non-selected districts during the year 1906-07.

Province.	Number of Horse Fairs and Shows held.	Total number of animals present.		Total number competing for prizes.		Total number of horse stock (not including branded mares) present.		Number of remounts purchased.				Price paid for remounts.			Number of mules purchased			Price paid for mules by Government.			Total number of animals sold.	Prize money provided.							Amount sanctioned by Government of India for next year's Fair or Show.	Remarks.
		Year under report.	Previous year.	Year under report.	Previous year.	Belonging to breeders.	Belonging to dealers.	For Remount Deptt.	For Native Cavalry.	For Police.	Total.	Highest price.	Lowest price.	Average price.	By Government.	By others.	Total.	Highest price.	Lowest price.	Average price.		From Imperial Funds.	From Provincial Funds.	From Local Funds.	From other sources.	Total.	Amount actually awarded.	No of medals awarded.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
United Provinces	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Punjab	8	4,678	3,527	6,804	1,093	3,351	58	...	...	...	...	...	...	...	...	37	37	...	...	...	1,157	1,500	...	2,326	...	3,826	2,941	3	...	
Sind	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Rajputana	1	1,155	1,141	679	212	...	1,155	...	...	...	...	...	...	...	...	1	1	...	...	...	408	...	...	500	...	500	373	...	...	
Bengal	6	28,050	(a) 13,387	335	206	...	15,227	(c)*	...	...	...	300	5	40	...	...	...	...	...	...	10,200	...	120	...	586	706	(b) 706	(d) 1	...	
Bombay	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Madras	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Central Provinces	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Burma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
North-West Frontier Province ...	2	1,159	630	869	571	822	337	...	...	...	...	...	...	...	...	3	3	...	...	...	19	2,000	...	1,305	...	3,305	2,673	2	...	
Total ...	17	35,242	18,685	8,707	2,082	4,173	16,777	...	...	...	...	300	5	40	...	41	41	...	...	...	11,784	3,500	120	4,131	586	8,337	6,893	6	...	

(a) 4,520 were shown in the Report for 1905-1906.

(b) Paid from lump sum received for the mela and from General funds of the mela.

*(c) Bengal Report shows 10,007 remounts as purchased, these figures have been omitted as they cannot be considered to be correct.

(d) Awarded by Mr. J. G. Gumming, late Collector of Patna.

TABLE XIV.

Abstract of particulars regarding Cattle Fairs and Shows held during the year 1906-07.

Province.	Number of Cattle Fairs and Shows held.	Total number of stock present.							Average price of animals sold.					Amount realized in fees.	Total number of animals that competed for prizes.	Prize money provided.						Number of medals awarded.	Remarks.
		Bulls.	Bullocks.	Cows.	Young stock.	Buffaloes.	Camels.	Others.	Bulls.	Bullocks.	Cows.	Buffaloes.	Camels.			From Imperial funds.	From Provincial funds.	From Local Funds.	From other sources.	Total.	Amount actually awarded.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
									Rs.	Rs.	Rs.	Rs.	Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
United Provinces	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,000 0 0	...	...	...	1,000 0 0	844 0 0	4	
Punjab	28	13,436	1,43,405	53,094	40,340	1,19,237	10,020	15,070	...	...	...	...	...	1,06,640 0 0	3,777 0 0	1,900 0 0	250 0 0	9,436	660 0 0	12,246 0 0	9,876 0 0	21	
Sind	1	12	357	12	3	54	...	...	...	...	...	...	...	...	478 0 0	...	...	500	...	500 0 0	439 0 0	...	
Rajputana	1	...	5,672	...	...	...	5,923	...	...	44	...	...	53	(a) 866 0 0	23 Pairs Bullocks 35 Camels.	...	...	50	...	50 0 0	50 0 0	...	
Bengal	12	1,595	1,28,490	5,614	35,273	5,863	2,516	1,36,991	...	...	...	...	...	11,873 6 0	1,526 0 0	975 0 0	2,350 0 0	2,630	1,955 12 0	7,910 12 0	2,609 0 0	12	
Bombay	4	329	4,454	778	322	412	...	8,513	...	...	...	...	...	1,096 4 3	905 0 0	1,000 0 0	887 8 0	450	212 8 0	2,550 0 0	2,495 0 0	4	
Madras	6	307	76,952	1,700	750	2,434	...	757	150	76	86	...	...	...	2,517 0 0	2,000 0 0	325 0 0	1,050	4,242 0 0	7,617 0 0	5,024 0 0	12	
Central Provinces	10	150	31	41	8	12,209	1	1,282	...	...	...	...	...	16,514 1 3	432 0 0	153 0 0	695 0 0	950	375 0 0	2,178 0 0	1,490 0 0	...	
Burma	1	12	32	5	4	71	...	45	...	...	...	...	...	...	169 0 0	100 0 0	960 0 0	...	...	1,060 0 0	710 0 0	3	
Baluchistan	2	13	183	75	...	4	...	...	...	80	...	...	...	...	275 0 0	500 0 0	...	...	90 0 0	590 0 0	565 0 0	2	
North-West Frontier Province ...	3	249	323	157	33	229	8	78	...	...	...	...	...	...	985 0 0	1,500 0 0	...	500	...	2,000 0 0	1,785 0 0	3	
Total ...	73	16,103	3,59,908	61,476	76,783	1,40,603	18,498	1,62,746	150	66	86	...	53	1,36,989 11 6	11,054 *plus* 23 pairs bullocks and 35 camels.	9,133 0 0	5,467 8 0	15,656	7,445 4 0	37,701 12 0	25,887 0 0	61	

(a) This includes fees for horses and mules, etc., also.

TABLE XV.

Showing main results of the working of the Bacteriological Laboratory during 1906-07.

	QUANTITY OF SERA OR ANTI-TOXIN PREPARED AND ISSUED.						INSTRUCTION IMPARTED.					FINANCIAL RESULTS.										
								Number attending classes.		Number passed.		Receipts.					Expenditure.					
	Names of sera or anti-toxin.	Opening balance.	Prepared during the year.	Total.	Issued during the year.	Stock in hand at end of year.	Department or Province.	Veterinary Officers.	Veterinary Inspectors and Assistants.	Veterinary Officers.	Veterinary Inspectors and Assistants.	Sale of animals.	Sale of sera (both for cash and on book credit).	Sale of garden products and revenue from reserved forests.	Other miscellaneous receipts.	Total.	Salaries and travelling allowances of officers and subordinate establishment.	Feed and keep of animals.	Purchase of animals.	Cost of chemicals and apparatus.	Other miscellaneous expenditure.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		C.C.	C.C.	C.C.	C.C.	C.C.						Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
Muktesar Laboratory.	Rinderpest ...	2,61,409 34,650*	17,79,876	20,75,929	1,66,709	4,14,220	Civil Veterinary Department. Army Veterinary Corps.	2 3	... ...	2 3	... ...	135 0 0	1,516 2 0	240 13 9	96 9 8	1,988 9 5	54,586 0 4	30,170 9 9	18,762 14 6	5,125 12 6	1,250 0 0† 20,944 12 5‡	1,25,840 1 6
	Rinderpest serum in powder	2,194	...	2,194	12 (lost in breakage).	2,182	United Provinces.	...	8	...	8											
	Anthrax serum	1,17,240	76,402	1,93,642	59,070	1,34,572	Punjab ...	...	13	...	13											
	Hæmorrhagic septicæmia.	...	2,58,665	2,58,665	2,27,165	31,500	Central Provinces.	...	5	...	5											
	Mallein ...	1,520	11,276	12,796	3,583	9,213	Native States	...	1	...	1											
	Charbon Symptomatique	vaccine serum	14,030 7,678	21,708	930	vaccine 13,100 serum 7,678	....	... ...	... ...	... ...	... ...											
Bareilly Depot.	.....	...	...	...	...	...	United Provinces. Punjab ... Bengal ... Bombay ...	... ...	4 4 11 3	... ...	4 4 11 3	...	...	225 0 0	...	225 0 0	11,287 11 2	2,499 15 1	1,996 3 0	...	...	15,783 12 3
TOTAL ...	.....	417,007	2,147,927	2,564,934	1,953,469	612,465	.....	5	* 49	5	49	135 0 0	1,516 2 0	465 13 9	96 9 8	2,213 9 5	65,873 11 6	32,670 8 10	15,759 1 6	5,125 12 6	22,194 12 5	1,41,623 14

* Returned from Garhwal.
† Rs. 1,250 Library allowance.
‡ Includes Fitting and Furniture charges of Institute, Dispensary, etc. together with cost of medicines.

TABLE XVI.

Hissar Farm.

Return of Animals for the official year 1906-07.

—	Bulls.	Cows.	Male produce.	Female produce.	Castrated produce.	Cultivation Bullocks.	Camels.	Mares for mule-breeding.	Donkey Mares.	Mules.	Donkey Stallions.	Zebras.	Donkey mares for zebroid breeding.	Pony mares for zebrule breeding.	Ordnance Bullocks.	Donkey colts.	Donkey fillies.	Pony fillies.	Pony colts.	Pony stallions.	Rams.	Ewes.	Male lambs.	Female lambs.	Zebrule fillies.	Total.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Balance on 1st April 1906	19	889	661	817	131	218	7	38	62	263	2	2	17	21	...	55	19	2	1	1	2	29	8	20	...	3,284	
Increase — By Birth ...	...	...	315	267	...	...	...	...	...	17	...	...	...	...	...	18	9	1	1	...	...	...	67	90	2	787	
Increase — By Purchase	...	...	1	...	...	12	...	8	...	42	...	...	...	3	...	3	...	...	...	...	15	183	1	2	...	270	
Increase — Transfer ...	109	273	1	...	31	49	...	5	22	2		...	...	...	118	...	...	...	...	...	...	41	...	...	...	656	
Total ...	128	1,162	978	1,084	162	279	7	51	84	324	7	2	17	24	118	76	28	3	2	1	17	253	76	112	2	4,997	
Decrease — Died ...	...	10	29	34	...	12	...	2	3	2	...	...	...	...	...	8	2	1	...	...	...	7	10	13	...	133	
Decrease — Destroyed ...	...	2	2	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	6	
Decrease — Sold ...	101	112	12	40	...	9	...	14	2	96	2	...	...	1	117	10	...	...	2	...	13	...	14	...	...	545	
Decrease — Transferred	8	...	136	273	162	1	...	...	...	...	...	1	12	5	1	5	10	...	...	...	...	...	...	41	2	657	
Total Decrease ...	109	124	179	348	162	22	...	16	5	98	2	1	13	6	118	23	12	1	2	...	13	7	24	54	2	1,341	
Balance on 31st March 1907.	19	1,038	799	736	...	257	7	35	79	226	5	1	4	18	...	(a) 53	16	2	...	1	4	246	52	58	...	3,656	(a) 1 at Goona.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Valuation— Rate per head ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total Rupees ...	4,020	86,075	36,880	21,530	...	21,500	508	3,960	8,880	42,555	1,500	866	360	1,860	...	6,270	850	80	...	208	[illegible]	729	52	58	...	2,39,014	

TABLE XVII.

Hissar Farm.

Results of donkey, mule and zebrule-breeding during 1906-1907.

—	Stallions on Register at close of year.	Stallions actually employed at stud.		Number of mares covered.		Average of mares covered per stallion employed at stud.		Result of previous year's coverings.		Average result of previous year's coverings per stallions employed at stud.		Remarks.
		Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Number of produce.	Number not held.	Average of produce.	Average of not held.	
1	2	3	4	5	6	7	8	9	10	11	12	13
Donkey-breeding	5	7	4	75	44	10·71	11	27	17	6·75	4·25	
Mule-breeding	5	5	3	(a) 38	56	7·6	18·66	(b) 17	40	5 66	13·66	
Zebroid-breeding	1	1	1	(c) 5	6	5	6	...	6	...	6	
Zebrule-breeding	1			23	21	23	21	(d) 3	18	3	18	

(a) One mare No. 27 was covered by zebra stallion "Monkey".
(b) One mare gave birth to twins.
(c) One mare was covered by Donkey stallion "Hissar".
(d) One premature.

TABLE XVIII.

Abstract showing main results of the working of the Hissar Farm during the official year 1906-07.

	Rs.	A.	P.
Receipts paid into Treasury.			
1. Sale of animals (*a*)	76,153	4	0
2. Sale of produce	222	6	6
3. Other heads	14,981	9	1
TOTAL ...	91,357	3	7
II.—Expenditure.			
1. Salaries and travelling allowances of officers	15,186	6	0
2. Ditto ditto of subordinate staff	24,119	13	3
3. Cultivation expenses	23,403	7	10
4. Feed of animals, including Reserve fodder (Rs. 3,125-7-7) ...	35,933	7	5
5. Purchase of animals	8,438	8	0
6. Other heads	9,109	5	4
TOTAL ...	1,16,190	15	10
III.—Valuation of animals issued on book credit.			
1. Siege-train bullocks	17,550	0	0
2. Army transport bullocks	.....		
3. Bulls	.....		
4. Mules and donkeys	32,475	0	0
5. Donkeys	.....		
TOTAL ...	50,025	0	0
IV.—Valuation of animals, grain and fodder on hand at end of year.			
1. Valuation of animals as per Table XVI	2,39,014	0	0
2. Do. of grain	3,340	6	0
3. Do. of fodder	22,495	14	6
TOTAL ...	2,64,850	4	6

(*a*) Includes "Valuation of animals issued on Book credit."

TABLE XIX.

Statement showing total charges during 1906-07 in connection with Civil Veterinary Department.

—	Inspector General.	Imperial Bacteriologist.	Hissar Cattle Farm.	United Provinces.	Punjab.	Bengal.	Madras.	Central Provinces.	Bombay.	Burma.	North-West Frontier Province.	Eastern Bengal and Assam.	Superintendent, C.V.D. Sind Baluchistan and Rajputana.	Camel specialist.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1. Superintendence	...	...	...	20,389 0 0	52,524 0 0	...	...	...	...	...	...	...	...	...	72,913 0 0
2. Veterinary Instruction	...	...	...	...	83,330 0 0	...	...	...	...	...	...	1,146 0 0	...	...	84,476 0 0
3. Subordinate establishment	...	...	...	36,125 0 0	56,705 0 0	...	...	...	...	...	...	23,873 0 0	...	...	1,16,703 0 0
4. Hospital and Dispensaries	...	...	...	...	60,730 0 0	...	...	...	...	...	22,840 0 0	250 0 0	...	...	83,820 0 0
5. Breeding Operations	...	...	...	...	67,232 0 0	...	...	...	...	...	...	...	...	...	67,232 0 0
6. Prizes	...	...	...	...	12,817 0 0	...	...	...	...	...	...	...	...	...	12,817 0 0
7. Fairs and Shows	...	...	...	...	...	...	...	...	...	...	4,658 0 0	...	...	...	4,658 0 0
8. Bacteriological Research	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
9. Camel Specialist	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10. Salaries of officers	25,051 6 11	35,578 8 4	17,160 6 4	...	...	46,091 7 1	34,851 15 0	7,920 0 0	32,453 7 0	32,263 0 0	...	...	4,003 13 4	5,897 14 6	2,41,271 14 6
11. Do. Subordinates...	15,806 14 10	33,605 15 9	23,223 1 4	...	...	19,140 6 2	8,317 12 4	36,726 15 0	39,082 14 8	55,647 0 0	...	...	2,526 0 0	1,052 0 6	2,35,128 0 7
12. Travelling allowances of Officers	3,487 8 0	1,134 10 0	1,773 6 0	4,735 0 0	...	6,698 15 0	4,530 6 0	1,549 3 0	...	3 123 0 0	...	...	672 4 0	1,603 6 0	29,305 10 0
13. Ditto Subordinates...	2,580 12 0	635 5 6	844 4 8	7,213 0 0	...	3,803 8 8	3,631 1 6	8,366 8 1	5,631 13 6	21,200 0 0	...	...	322 9 6	637 0 3	54,535 15 3
14. Other allowances	...	...	...	4,466 0 0	...	8,597 0 4	596 12 5	...	376 10 9	6,178 0 0	...	...	...	...	20,214 7 6
15. Supplies and Services	1,068 14 1	8,244 6 9	344 0 1	27,600 0 0	...	46,636 7 0	5,045 13 9	...	...	5,913 0 0	...	...	...	1,212 10 0	96,065 3 8
16. Contingencies	28,028 13 3	16,385 9 7	760 8 1	7,908 0 0	...	21,899 8 8	1,241 5 6	19,668 7 5	17,918 3 0	21,539 0 0	...	...	815 9 11	1,905 14 9	1,38,070 0 2
17. Prevention of Disease	...	...	...	...	...	...	...	...	34,214 11 2	1,086 0 0	...	...	...	...	35,300 11 2
18. Schools and Colleges	...	...	...	...	...	30,640 1 10	20,778 11 9	...	27,368 1 6	...	...	...	...	...	18,786 15 1
19. Prizes at Fairs and Shows	—1,643 0 0	...	...	...	...	...	3,375 0 0	...	18,094 2 0	...	...	...	500 0 0	...	20,326 2 0
20. Bacteriologist	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
21. Cattle Farms	...	...	...	...	...	...	...	...	5,541 15 7	...	...	...	...	...	5,541 15 7
22. Purchase of Stallions	15,304 1 9	15,964 15 9	13,676 7 0	...	...	...	...	...	...	...	...	...	...	...	44,945 8 6
23. Stable Feed and keep	1,944 9 6	47,285 4 8	58,964 12 9	...	...	...	...	...	...	...	...	...	...	321 11 2	1,08,516 6 1
24. Road Expenses	636 14 0	...	1,486 6 6	...	...	...	...	...	...	...	...	...	...	...	2,123 4 6
25. Prizes for encouragement of cattle breeding	2,699 0 0	...	...	...	...	...	...	...	...	...	...	...	...	...	2,699 0 0
26. Purchase and repair of Machinery and Instruments ...	...	...	12,469 6 5	...	...	...	...	...	...	...	...	...	...	...	12,469 6 5
27. Bulls and Stallions charges	...	...	...	...	...	...	...	...	27,010 5 0	...	...	...	...	...	27,010 5 0
Total ...	94,965 14 4	1,58,831 12 4	1,30,701 10 9	1,03,436 0 0	3,33,338 0 0	1,83,097 6 9 (a)	82,368 14 3	74,230 1 6	2,07,692 4 2	1,47,037 0 0 (a)	27,498 0 0	25,269 0 0	8,840 4 9	12,620 9 2	15,94,929 4 0

NOTE.—To be furnished by the Comptroller, India Treasuries, and Several Accountants General concerned.
(a) As submitted by the Accountant-General, who states that the revised classification will be introduced with effect from the accounts for 1907-08.

G. C. B. P. Simla.—No 1 I. G. C. V. D.—30-9-07.—J.S.E.

ANNUAL ADMINISTRATION REPORT

OF THE

CIVIL VETERINARY DEPARTMENT IN INDIA

FOR THE OFFICIAL YEAR

1908-09.

SIMLA:
PRINTED AT THE GOVERNMENT CENTRAL BRANCH PRESS
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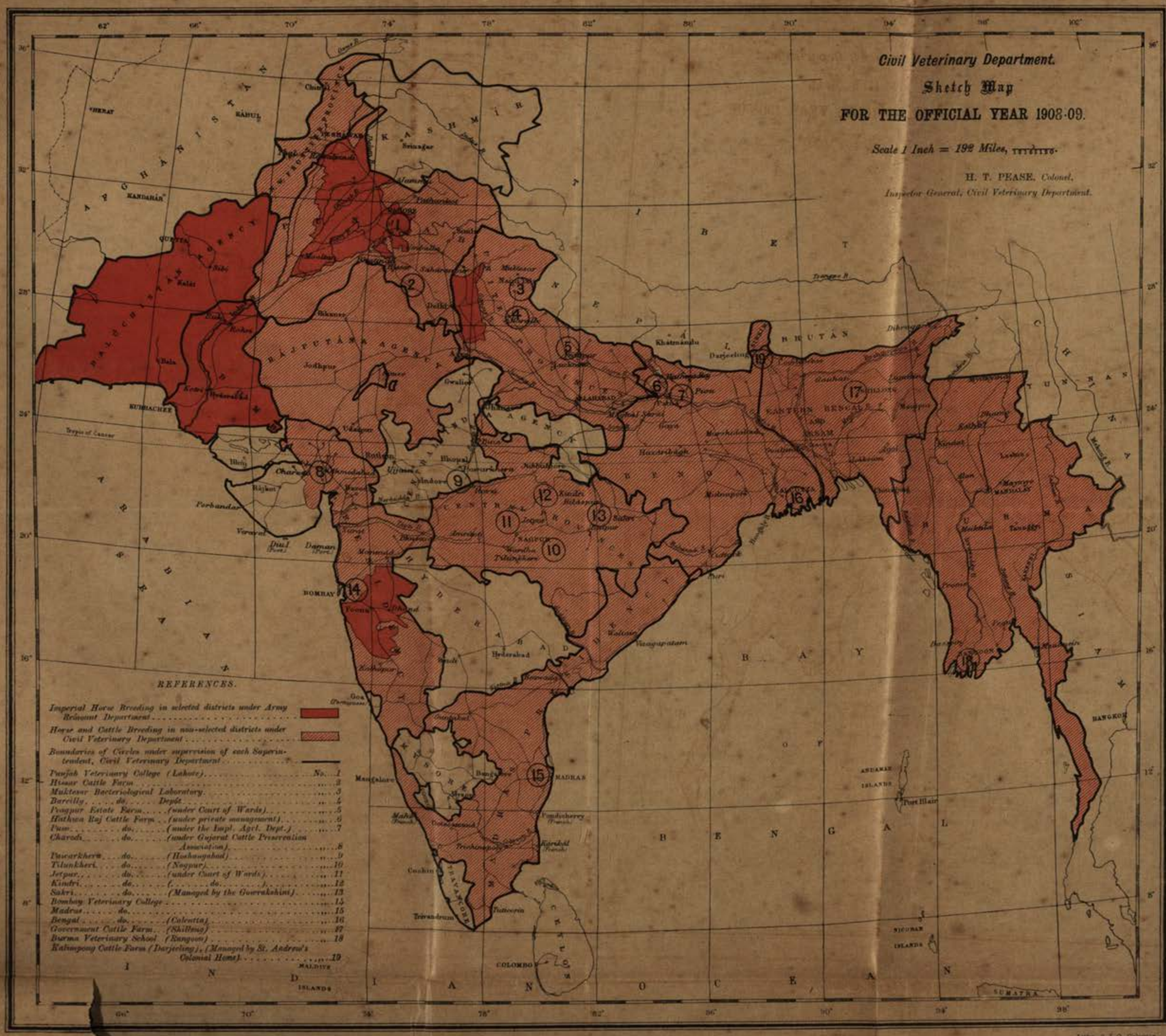

Civil Veterinary Department.
Sketch Map
FOR THE OFFICIAL YEAR 1908-09.
Scale 1 Inch = 192 Miles,
H. T. PEASE, Colonel,
Inspector General, Civil Veterinary Department.
REFERENCES.
Imperial Horse Breeding in selected districts under Army Remount Department
Horse and Cattle Breeding in non-selected districts under Civil Veterinary Department
Boundaries of Circles under supervision of each Superintendent, Civil Veterinary Department
Panjab Veterinary College (Lahore) .... No. 1
Hissar Cattle Farm 2
Muktesar Bacteriological Laboratory 3
Bareilly ..... do. ..... Depôt 4
Pusa ..... do. ..... (under the Impl. Agrl. Dept.) 7
Charodi ..... do. ..... (under Gujerat Cattle Preservation Association) 8
Tilunkheri ..... do. ..... (Nagpur) 10
Jetpur ..... do. ..... (under Court of Wards) 11
Kindri ..... do. ..... (..... do. .....) 12
Sakri ..... do. ..... (Managed by the Gowrakshini) 13
Bombay Veterinary College 14
Madras ..... do. 15
Bengal ..... do. ..... (Calcutta) 16
Government Cattle Farm .. (Shillong) 17
Burma Veterinary School (Rangoon) 18
Kalimpong Cattle Farm (Darjeeling), (Managed by St. Andrew's Colonial Home) 19
BALUCHISTAN AGENCY
RAJPUTANA AGENCY
KASHMIR
EASTERN BENGAL AND ASSAM
BHUTAN
BURMA
CENTRAL PROVINCES
HYDERABAD
MYSORE
TRAVANCORE
BAY OF BENGAL
INDIAN OCEAN
ARABIAN SEA
Tropic of Cancer
BOMBAY
MADRAS
Jodhpur
Gwalior
Bhopal
Indore
Nagpur
Hyderabad
Poona
Bangalore
Mangalore
Pondicherry
Karikal
Trichinopoly
Cochin
Trevandrum
Tuticorin
COLOMBO
Goa
Porbandar
Veraval
Diu
Daman
Surat
Vizagapatam
Darjeeling
Khatmandu
Srinagar
Quetta
Kalat
KANDAHAR
KABUL
HERAT
BANGKOK
ANDAMAN ISLANDS
Port Blair
NICOBAR ISLANDS
MALDIVE ISLANDS
SUMATRA
Litho. S. I. O., Calcutta.

ANNUAL ADMINISTRATION REPORT

OF THE

CIVIL VETERINARY DEPARTMENT IN INDIA

FOR THE OFFICIAL YEAR.

1908-09.

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GOVERNMENT OF INDIA.

ANNUAL ADMINISTRATION REPORT

OF THE

CIVIL VETERINARY DEPARTMENT IN INDIA

FOR THE OFFICIAL YEAR

1908-1909.

GENERAL ADMINISTRATION.

A coloured Map which accompanies this Report, shows, in light red, the districts under the Civil Veterinary Department. The usual Tables are appended. Preface.

2. The table noted below gives the names of the officers who held the several appointments in the Department during the year under report :— Officers in charge.

Appointments.	1st April 1908.	31st March 1909.	Remarks.
Inspector General ...	Colonel H. T. Pease, C.I.E.	Colonel H. T. Pease, C.I.E.	
Imperial Bacteriologist ...	Captain J. D. E. Holmes, M.A., D.Sc.	Captain J. D. E. Holmes, M.A., D. Sc.	
Assistant Bacteriologist ...	H. E. Cross, Esq. ...	H. E. Cross, Esq.	
Physiological Chemist ...	.....	.....	Mr. Hartley joined on 16th April 1909.
Superintendent, Government Cattle Farm, Hissar.	C. W. Wilson, Esq. ...	Major J. Farmer.	
Superintendent, United Provinces.	Major H. M. Maxwell ...	E. W. Oliver, Esq.	
2nd Superintendent, United Provinces.	G. D. Martin, Esq. ...	C. W. Wilson, Esq.	
Chief Superintendent, Punjab	Captain G. K. Walker ...	Captain G. K. Walker.	
Superintendent, North-West Frontier Province and North Punjab.	V. deV. H. Woodley, Esq.	V. de V. H. Woodley, Esq.	
Superintendent, South Punjab	.....	G. Taylor, Esq.	
Superintendent, Sind, Baluchistan and Rajputana.	Major A. S. Trydell ...	Major A. S. Trydell.	
Principal, Punjab Veterinary College.	Captain A. Smith ...	Major A. Smith.	
Professor, Punjab Veterinary College.	Captain W. O. Dawson ...	Captain W. O. Dawson.	
Professor, Sanitary Science, Punjab Veterinary College.	S. H. Gaiger, Esq. ...	S. H. Gaiger, Esq.	
Principal, Bombay Veterinary College.	Major F. Joslen ...	M. H. Sowerby, Esq. ...	Acting.
Assistant Principal, Bombay Veterinary College.	M. H. Sowerby, Esq. ...	F. Ware, Esq. ...	Acting.
Superintendent, Bombay ...	K. Hewlett, Esq. ...	K. Hewlett, Esq.	
Principal, Bengal Veterinary College.	Lieutenant-Colonel F. Raymond. ...	Colonel F. Raymond.	

Appointments.	1st April 1908.	31st March 1909.	REMARKS.
Superintendent, Bengal ...	D. Quinlan, Esq. ...	D. Quinlan, Esq.	
Superintendent, Eastern Bengal and Assam.	W. Harris, Esq. ...	W. Harris, Esq.	
Superintendent, Madras ...	Lieutenant-Colonel W. D. Gunn.	Lieutenant-Colonel W. D. Gunn.	
Superintendent, Burma ...	Lieutenant-Colonel G. H. Evans.	Lieutenant-Colonel G. H. Evans.	
2nd Superintendent, Burma ...	T. Rennie, Esq. ...	T. Rennie, Esq.	
3rd Superintendent, Burma ...	.....	C. J. N. Cameron, Esq.	
Superintendent, Central Provinces.	J. S. Jethiji, Esq. ...	Major F. S. H. Baldrey.	
Veterinary Officer, Investigating Camel diseases.	A. S. Leese, Esq. ...	A. S. Leese, Esq.	

3. I regret to say that the death of Mr. J. S. Jethiji was reported on the 25th August 1908. Only one officer, Mr. J. G. Cattell, joined the Department and was posted for training at the Muktesar Laboratory. Mr. Hartley the Physiological Chemist joined the Department on 16th April 1909. Mr. Cattell will shortly be posted to the Punjab for training in district work.

4. Colonel F. Raymond was granted an extension of service for three years and promoted to the rank of Colonel.

5. The following officers were on leave in England at the close of the year under report:—

Lieutenant-Colonel F. Joslen.

Major H. M. Maxwell.

Mr. G. D. Martin.

Inspector General's tour.

6. Colonel H. T. Pease, C.I.E., served as President at the Board of Examiners at the Punjab, Bombay, and Madras Veterinary Colleges. He attended the Amritsar and Lyallpur Cattle Fairs. Inspected the Simla-Kalka also the Rawalpindi-Srinagar Dak lines. Inspected Veterinary Dispensaries at Umballa, Sialkot, Ferozepore, Ajnala, Gurdaspore and Amritsar. Visited the Dairy Farms at Umballa and Rawalpindi. Inspected the Imperial Bacteriological Laboratory at Muktesar and the Branch Depôt at Bareilly. Inspected all the Veterinary Colleges and the Government Cattle Farm at Hissar on three occasions. Attended as Member of the stallion purchasing Committee at Bombay and Madras, and visited Sohawa to inspect site for proposed Laboratory for treatment of camel diseases.

He travelled 9,298 miles by rail and 542 miles by road.

PART A.—PROVINCIAL ADMINISTRATION.

I.—VETERINARY INSTRUCTION.

Veterinary Colleges and Schools.

7. *Table 1.*—Gives the main results of the work done in the Veterinary Colleges and Schools. Arrangements were concluded during the year for permanent boards of examination and subjects allotted to each Examiner. The dates of the examinations were fixed.

8. I was able to attend as President at the Boards of Examination at the Bombay, Madras and Punjab Colleges but was prevented by illness from going to Bengal. I have already remarked on the capabilities of the various teaching institutions and have little to add to what has already been said on the subject. Punjab still leads the way both in strength of teaching staff, facilities for teaching and

outturn of graduates, accomplishing more than three times as much as any of the other Colleges. Bengal comes next but is weak in European teaching staff. Bombay next and Madras the youngest of the institutions, last.

9. The staff at the Punjab College remained unchanged. This college is at present much overcrowded there being no less than 109 students in the final year class and 73 in the second year. The Board of Examiners remark in their report that: "the technical subjects contained in the 3rd year course require far more individual tuition than it is possible to give to such a great number of students." As a matter of fact the classes are far too large to be well taught and I have strongly recommended the Principal to reduce them to more workable limits. The demand for admission is very great and Government nominations fill up the class before any private students can be admitted. In the circumstances and considering the very great demand which exists for trained men there is a great temptation to admit too many students.

10. Considering the very large classes and the general prevalence of Malaria in the autumn, the results of the examinations must be considered very good as 69 out of 109 were successful in passing the final test, whilst 59 out of 67 passed the first, and 62 out of 73 the second year's tests.

11. The receipts from fees, etc., were Rs. 14,223, and 6,525 patients were treated in hospital.

12. I regret to say that it has been found impossible to complete the very necessary additions to the Anatomical rooms which have already received the sanction of Government but for which the land required has not yet been acquired. I understand that the additions to the laboratory will shortly be made and that the erection of a hostel for the students only awaits the acquisition of the site which has already been decided on.

13. In Bengal, Colonel F. Raymond has been relieved of the charge of the Provincial Department and appointed Principal of the Bengal Veterinary College and is in charge of the administration of the Glanders and Farcy Act in Calcutta, Howrah, Alipore and the 24 Parganas. This is a move in the right direction. The results of the year's work are good, 38 out of 51 students passed the first year's, 37 out of 48 the second, and 25 out of 29 the final year's test. 5,144 cases were treated in hospital, and Rs. 16,392-7-6 realized as fees for treatment. No new work of improvement was carried out during the year for want of funds, but His Honor the Lieutenant-Governor was pleased to signify his intention to sanction, if funds became available, a reappropriation for the conversion of the Assistant Principal's quarters into a hospital for students.

14. This College now trains men for Bengal, Eastern Bengal and Assam and Burma and some for the eastern districts of the United Provinces

15. *Bombay.*—Mr. Sowerby took over charge of the College in July, Major Joslen having proceeded on leave in May. Mr. Ware was appointed Assistant Principal at the same time. The remainder of the teaching staff was unchanged. The Board of Examiners in their report state that they consider the results of the year's work satisfactory; 24 out of 35 students passed the first year's test, 26 out of 37 the second and 17 out of 23 the final examination. 4,064 cases were treated in hospital and Rs. 7,900 were received as fees, etc. A very great and necessary improvement has been made in the buildings and equipment of this college which although the oldest was until recently the most backward in India.

16. The new College building was taken over from the Public Works Department and formally opened by the Hon'ble J. L. Jenkins, C.S.I., and it is, as that official remarked in his opening speech, the finest and best college building in India. There are only a few more conveniences required to render it a thoroughly efficient teaching institution and these are a contagious disease ward, Anatomical and post mortem rooms. General plans and a rough estimate of cost for building these very necessary additions have been drawn ahd submitted to Government and it is hoped will shortly receive their sanction.

17. In regard to hospital improvements Mr. Framji Bomanji Jeejibhoy has given a donation of Rs. 3,000 for a colic box and the work is in hand. The hospital authorities have built a new road in their compound adjoining the road of the new Veterinary College. The question of building an operating theatre has been again referred to Government for a fresh plan and estimate to be prepared by the Executive Engineer, Presidency.

Steps have been taken to place the library on a proper footing.

18. *Madras.*—This young institution has suffered severely from the fact that it has, so far, had no whole-time Principal to look after it and although it has been nominally in charge of the Superintendent the fact that he was also responsible for the work of the Provincial Veterinary Department rendered it impossible for him to give the necessary attention to the training of the students I have on several previous occasions pointed out what an impossible position this is and how both the duties must suffer in consequence of it. The result has been that practically all the teaching work, as well as the charge of the college and hospital, have been thrown on to the shoulders of the Assistant Principal and native staff.

19 The Madras Veterinary College has many advantages and with a good staff and sufficient teaching accommodation should be able to turn out very good Veterinary Graduates. The students are intelligent, have a good knowledge of English and are good material to work on. There is the makings of a good practice which a skilled Veterinary officer should easily double or treble and plenty of accommodation is available for the few extra buildings which are required.

20. Sanction has been accorded to the appointment of a whole-time Principal and it is hoped that he will be able to improve matters and obtain a better class of student than is now joining the College. The Board of Examiners remark in their report : " we regret to notice a falling off both in numbers and quality of the students in A. and B. but especially in A. class and we do not consider that the material in this class can in any way compare with that in class C."

21. All things considered the results are good. 12 students out of 15 passed the first year's test, 16 out of 20 the second and 24 out of 29 the final examination. 2,873 cases were treated in hospital and Rs. 11,462 realized in fees.

22. No improvements in the facilities for teaching are reported but I am informed that the question of erecting more stables, providing a pharmacy room and a small laboratory and contagious disease ward are under the consideration of the Government.

23. *Burma.*—At the Burma Veterinary School the staff has remained unchanged during the year. The removal of the school to Insein in November caused a break in the studies. 25 out of 28 students passed the final examination.

24. *General.*—The total number of students who completed the courses in the various classes during the year was 590 against 629 last year. The total number of students who graduated from the Colleges was 160 against 148 last year. From the Punjab College 69 or 63 per cent, Bengal 25 or 86·20 per cent, Madras 24 or 83·9 per cent, Bombay 25 or 73·91 per cent. 25 students passed out of the Burma Veterinary School against 4 last year.

25. There were 505 students remaining under instruction at the Colleges and 24 in the Burma school at the end of the year against 485 and 63 in the previous year.

26. With regard to the demand for admission it is very great indeed in the Punjab, considerable in Bengal and Madras, but not so good in Bombay.

27. The demand for vernacular trained men is still enormous and in order to meet it and to relieve the congestion and overcrowding at the Punjab College, proposals have been submitted to the Government of India for the establishment of a new vernacular college which is absolutely necessary. Even with two colleges working at full pressure the demand for trained men will scarcely be met.

28. The demand for Bengal and Madras graduates is good, only 6 men at the former and 3 at the latter being unemployed, but 10 Bombay men have not succeeded in finding employment.

29. The number of matriculates who joined the Colleges has considerably decreased this year, Bengal has again dropped to 3, Madras to 7, Bombay maintains its average, 16 out of 43, while the Punjab which is a Vernacular College shows a slight improvement, *i.e.*, 10 against 7 last year.

30. In addition to the training of Veterinary Assistants, classes for transport drivers were held and 62 men were trained at the Punjab College, 4 in Bengal, and 17 in Bombay.

31. Sixteen nalbands were under training at the Punjab College and of these 9 passed the farriers examination. Two men were trained as nalbands in the Bengal College.

32. I am very glad to be able to report that more use has been made generally of the laboratories at the various Colleges where they exist, and that although we have been unable to carry out the recommendation of the Advisory Committee of the Royal Society to post a qualified Pathologist at each college laboratory, a good deal has been done with the staff at our command. Arrangements have been made at the request of the Quarter Master General in India for assistance to be given to Army Veterinary Officers by the examination of material submitted by them for diagnostic purposes and advantage has been taken of this. Arrangements are also being made generally for the submission of material from Provincial Veterinary Assistants for the same purpose. In addition to the examination of specimens for diagnostic purposes and the practical demonstration of the various contagious diseases occurring in the country, arrangements have now been made for the teaching of the theory and practice of rinderpest and other inoculation work so as to save the trouble and expense of sending men to the Bacteriological laboratory at Muktesar. This has, so far, only been found possible in the Punjab and Bengal Colleges where facilities exist Bombay has no conveniences for the purpose and neither has Madras. It is hoped, however, that this will shortly be remedied.

33. In the Punjab College contagious ward the work being done is as follows:—

(*i*) Teaching the subject of contagious and parasitic diseases of animals in India.

(*ii*) The practical demonstration to the final year's class of all cases of contagious disease which it is practicable to show them.

(*iii*) Examining and reporting on all material sent in for the purpose.

(*iv*) Teaching the theory and practice of inoculation work as it is performed in the districts for Rinderpest, Black quarter and Hæmorrhagic Septicæmia and the practical application of the Mallein and Tuberculin tests.

(*v*) Original work on Indian diseases.

34. The amount of material sent in for diagnosis continually increases as the benefits of having a centre for this purpose become more widely known amongst Military and Civil Departments Specimens of blood and pus from suspected cases of Surra, Dourine, Piroplasmosis, Hæmorrhagic Septicæmia, Anthrax, Glanders, Strangles and Epizootic lymphangitis have been reported on during the year. Diseased organs, and tumors as well as animal parasites such as worms, ticks, flies, lice, etc., and food grains and grasses suspected of causing poisonous symptoms have been examined and reported on. The sources from which material is received are by no means confined to the Punjab but extend as far as Hong Kong. Over 300 specimens have been reported on during the year or twice as many as last year.

35. The officer in charge of the laboratory has prepared and submitted a most interesting report. Unfortunately, owing to the fact that there

are no funds available for the purpose, it has been found impossible to publish it entire, but the more important and interesting portions of it will appear in the pages of the Journal of Tropical Veterinary Science. The work done comprises :—

(*i*) The experimental treatment of Surra in horses and camels chiefly with Atoxyl and Orpiment, from which it may be concluded that Equine Surra is amenable to treatment, two cases of naturally contracted disease having been cured in the horse.

(*ii*) That Atoxyl and Orpiment as recommended by Laveran and Thiroux are the most successful drugs yet employed for the purpose and that the method is the most practicable yet discovered.

(*iii*) That it is not of any use in the camel.

36. A very useful piece of work on Hæmorrhagic Septicæmia about which little is so far known, has been done. A check list of animal parasites has been prepared in addition to notes on some parasites previously not described in India.

37. From Bengal too, a short report has been submitted. Colonel Raymond is in charge and is assisted by two Bengali Assistants. The laboratory is well equipped and is used extensively for diagnostic purposes, especially in regard to Rabies by the rapid method, Glanders and other diseases. The usual teaching work, including the instruction of the final year's students in the use of anti-Rinderpest, Black Quarter and other protective media, is carried out. The facilities for teaching contagious diseases are good, cases of Glanders, Epizootic lymphangitis, Surra, Rinderpest, Hæmorrhagic Septicæmia, Foot and Mouth disease, Anthrax, Tuberculosis, Strangles, Rabies, Distemper and Black Quarter having been admitted during the year.

38. A study of some staining peculiarities of the Anthrax bacillus was made and reported in the Journal of Tropical Veterinary Science. A note on Rabies was also prepared and published. An outbreak of Lymphangitis in cattle has been investigated. Colonel Raymond concluded that it differs very little from the lymphangitis observed and reported by M. Vryburg in Sumatra, being due to a bacillus. This observation differs from that of Holmes who describes the disease as a Streptotrichosis.

39. Samples of bone meal were examined at the request of the New Zealand Department of Agriculture, but no Anthrax was found in them. The work done in this laboratory shows a great advance which, it is hoped, will continue.

40. In Bombay the Patho-Bacteriological laboratory has been in constant use for diagnostic purposes but the Provincial Department is very backward. With its development we may in time learn something about the plagues which exist in the Bombay Presidency of which, at present, practically nothing is known.

41. In Burma 400 specimens were examined and reported on. Some investigations into the animal parasites of cattle in Burma were made and the results published in the Journal of Tropical Veterinary Science.

42. In Madras this work has not yet been commenced but when the laboratory is built and equipped, progress will undoubtedly be made.

43. It will be seen from the above that good progress has been made in the Veterinary Colleges.

44. It is very satisfactory to note that the teachers in Bengal have been brought into the Deputy Superintendent's grade and that the three senior Professors at the Punjab Veterinary College have been similarly treated. They well deserve the concession.

II.—TREATMENT OF DISEASE.

Contagious disease amongst solipeds, outbreaks, mortality, etc.

45. The reported mortality from contagious diseases amongst the animals named therein is shown in table II. The Army Remount Department deals

with all cases of contagious disease amongst equines occurring in the districts selected for horse-breeding under their Department, and we have no record of them.

46. The same remarks as were made last year regarding their accuracy, apply equally this year. The figures relate only to cases which have been brough tto the notice of the staff, and do not in any way represent the total mortality from contagious disease in our districts.

47. *Glanders.*—The Glanders and Farcy Act now applies to Glanders and Farcy, Epizootic Lymphangitis, Surra and South African Horse sickness. Two hundred and eighty cases of Glanders were reported from the whole of India, and these were distributed as follows.

48. In Calcutta and the suburbs, the equine population of which is estimated at 13,000, four thousand and seven stables were inspected in 90 of which Glanders was detected.

49. Two hundred and ninety-six animals were admitted into the contagious disease hospital, and of these 146 were found to be glandered and were destroyed, and 4 died in hospital.

50. One hundred and forty horses which had been in contact with the diseased, were subjected to the Mallein test and discharged free from the disease, whilst 4 remain under observation.

51. The Act has been somewhat more strictly applied this year. Six prosecutions were instituted and in five cases the owners were convicted and fined. Rs. 1,000 were sanctioned for the payment of compensation, and of this sum only Rs. 495-4-0 was awarded in cases where owners were very poor. This has been the means of saving much hardship to poor people.

52. In the districts of Bengal, 26 deaths from Glanders were reported by the District Officers, and 132 cases occurred in the Sodepur Pinjrapole. There was an outbreak in Hooghly in the month of September in the stables under the jurisdiction of the Hooghly, Serampore and Bally Municipalities. Of 27 suspicious cases tested with Mallein, 11 reacted and were destroyed.

53. Another outbreak occurred in the Tewara Factory in the Muzaffarpore district. Fifteen ponies were tested with Mallein and three proved to be infected and were destroyed.

54. In Bombay 57 horses were admitted to the Lazaretto at Sewri: of these 2 were well marked cases of Glanders, 40 were suspicious cases and 15 contacts. Of these 25 were proved to be infected with Glanders: so that 27 horses were destroyed altogether, of which 24 were Arabs, 2 Persians and 1 Australian.

55. In the Punjab 33 cases were reported, 6 from the Lahore, 9 from the Sialkot, and 18 from the Rawalpindi district, and were destroyed. No information regarding in-contacts or how they were dealt with is forthcoming.

56. In Eastern Bengal and Assam the Glanders and Farcy Act which previously was only enforced in certain towns and areas, has been extended to all the plains districts of the province. To facilitate the working of the Act and to neutralise active opposition a scheme for compensation has been drawn up and is now under the consideration of Government.

57. Twenty-one cases were reported, 11 from Rangpur, 4 from Khashi and Jaintia Hills, 3 from Lakhimpur and one each from Sibsagar, Sylhet, and Mymensingh. The most serious outbreak was amongst the Gariwala's horses at Rangpur, where there was some opposition to the testing of in-contacts. Compensation will efface this.

58. In the North-West Frontier Province, three cases occurred in Peshawar and two in Kohat, of which four were destroyed and one died. No further cases were found in contact animals.

59. In the United Provinces two cases of Glanders were detected on the Naini Tal-Kathgodam dâk line. They were destroyed and the usual precautions to prevent spread adopted.

60. In the Madras Presidency two cases are reported but no further information is given.

61. *Surra.*—As the Department extends new centres of this fatal and troublesome disease come to light, and there seems little doubt that it prevails all over India where conditions are favourable for its spread. The figures show 487 deaths this year amongst equines, but this does not give any adequate idea of the real mortality.

62. The majority of the deaths occurred in the Bombay Presidency whence 231 are reported: of these 82 were reported from Bombay City, 79 of which were destroyed under the Act, and the remainder died. In the Thana district 103, in the Panch Mahals 36, in Ahmedabad 9, and in Poona 1, deaths occurred. The disease has been brought under the Glanders and Farcy Act in Thana and Kolaba districts.

63. In the Punjab 163 deaths were reported. There was a serious outbreak in the Montgomery district where 120 deaths occurred. Thirty-two deaths occurred in Hoshiarpur and 11 in Ludhiana.

64. In Eastern Bengal and Assam the disease was confined to five districts, causing 70 deaths. In Kamrup 25, Khashi and Jaintia Hills 23, Sylhet 19, Sibsagar 2 and Cachar 1. All but two of these cases were diagnosed microscopically.

65 In the North-West Frontier Province six cases died in Bannu, four in Dera Ismail Khan and one in Peshawar.

66. The Superintendent, Civil Veterinary Department, Central Provinces, remarks that Surra has been serious in many cases, especially on Mail Tonga routes, and has been very virulent on the Betul and Yeotmal lines. Suppressive measures were adopted A somewhat serious outbreak occurred amongst police horses in Nagpur. The disease also occurred in Mandla and Raipur. No figures are available.

67. The areas in which the disease is enzootic are gradually being mapped out The most important matter in connection with Surra as it occurs in horses, which has come to light, is that it is a curable disease. Many cases have been successfully treated by a modification of Laveran and Thiroux's method by means of Atoxyl and Orpiment at the Muktesar laboratory and the Punjab Veterinary College. Final reports are not yet forthcoming, but there can be no doubt whatever that it is possible to cure a fair percentage of cases by means of drugs. The Bombay Presidency offers a very good field for such experimental application of the curative treatment, but unfortunately the Department there is still in the incubative stage and there seems at present little hope of its being organised in the near future.

68. *Anthrax.*—Only 68 cases have been reported during the year, and of these 36 occurred in Eastern Bengal and Assam; 11 in Sibsagar, 1 in Dacca, and 5 in Sylhet were diagnosed microscopically. The remainder, 5 in Lakhimpur, 9 in Darrang, 2 in Goalpara, and 3 in Dinajpur were not confirmed.

69. Eighteen cases are reported from Madras, but no details are given; evidently they were not confirmed.

70. Eight cases were reported from Bengal, but were not confirmed. Five from the Punjab and one from the North-West Frontier Province.

71. *Dourine.*—It is satisfactory to be able to report that no cases of this disease have been reported from the whole of the Horse-Breeding Department for the last three years. No cases have occurred in the non-selected districts. Fourteen cases are reported to have occurred in Bengal in the Sonthal Parganas

and one in Madras. In regard to the former it is stated that they were reported from the Thanas and were not seen by any one having any acquaintance with veterinary matters. The same is true of the case reported from Madras. It is practically certain that no cases of Dourine actually occurred in either district and I think we may safely say that Dourine has ceased to exist in the country and that we may congratulate ourselves on the efficient measures which were adopted to stamp out the disease.

72. The Dourine Bill is still under consideration and will be proceeded with so as to ensure proper powers of dealing with the disease should it reappear in the country.

73. *Epizootic lymphangitis.*—Six cases of Epizootic lymphangitis occurred in the whole of India and Burma in the Civil districts, and of these two were detected and destroyed in Bombay, two in Calcutta and two in Burma. The disease has been fairly common in military animals but does not appear to exist to any extent in the districts.

74. *South African Horse sickness.*—Several severe outbreaks of this disease have occurred in Aden and it has been deemed advisable to schedule it under the Glanders and Farcy Act so as to allow of any animal landing in the country from Aden or Arabia affected with this disease, being at once destroyed and disposed of to prevent the introduction of the disease into the country which would be little short of a calamity.

75. *Other contagious diseases.*—Two hundred and ninety-five deaths from other diseases are reported. Equine piroplasmosis is found to be a widespread and important disease in the horse in this country, but the information so far collected goes to show that it is not very important in indigenous horses although it is serious and often fatal in imported animals.

Contagious disease in Bovines. Outbreaks, preventive inoculation, mortality, etc.

76. Table II shows the number of deaths from contagious diseases among cattle which have been reported during the year. The same remarks as were made in previous years regarding accuracy, still hold good.

77. No figures are available for Baluchistan and the Central Provinces.

78. The total number of deaths reported is 401,139 head, of which 238,374 were from Rinderpest, 26,472 from Foot and Mouth disease, 34,124 from Hæmorrhagic Septicæmia, 10,299 from Black Quarter, 17,790 from Anthrax, and 74,080 from other contagious diseases.

79. Table III shows the number of outbreaks which have been dealt with by means of protective inoculation.

80. *Rinderpest.*—Is reported to have accounted for 238,374 deaths against 181,940 last year. The reporting therefore seems to be improving somewhat every year and doubtless, as knowledge extends, this will continue to be the case.

81. The number of outbreaks of Rinderpest which have been dealt with by means of protective inoculation by the Serum alone method, is 2,582 against 1,824 last year, and 291,960 animals were inoculated against 296,173 last year. The results are reported to have been excellent where the inoculations could be properly carried out.

82. *Burma.*—The year has been a favourable one as regards Rinderpest in Burma, and the mortality is less than last year, *i.e.*, 13,729 against 16,290 in the previous year.

83. In Lower Burma there was a severe outbreak in the Kyauktaw township, lasting from May to August; and moderately severe outbreaks at different times in the Myohaung township. Isolated outbreaks occurred in the Ponnagyun township but the disease was localised and the mortality small. The insignificance of the loss, 2,067 animals in the Arakan Division is accounted for by the precautions taken by the District Authorities and the assistance given by a batch of additional Veterinary Inspectors and Assistants which enabled them to stamp out the disease at an early stage.

84. The Pegu Division had practically no disease; the few isolated outbreaks which did occur being promptly attended to and inoculation carried out as far as possible.

85. The Irrawaddy Division has also been very free from disease. At the close of last year it existed in a mild form in Bassein but was kept under control by the strenuous efforts of the local staff; the total mortality being only 294.

86. In the Tenasserim Division, Rinderpest continued with some severity in the Amherst district during the early part of the year, but it gradually abated and died out in October. The people in this district are reported to have been extremely careless and quite indifferent to any arrangements made for the protection of their stock.

87. *Upper Burma.*—Here also the mortality from contagious disease has been extremely low. Only three districts, Bhamo, Katha and Yamethin reported a death rate of over a thousand. The disease was severe in all the sub-divisions of the Bhamo district and was also present in the Yamethin district, but was successfully dealt with and stamped out without serious loss. The villagers in this district appear to have grasped the value of segregation and generally carried it out themselves.

88. In the Mogôk District outbreaks occurred and were dealt with by serum injection with generally satisfactory results.

89. *Shan States.*—The disease prevailed to some extent in the Southern Shan States but did not assume the same degree of virulence as last year, nor was the mortality so high. It occurred in the Loilong, Yengan, Kyauk-ku, Pwela, Hsamonghkam and Loi-Ai States.

90. In the North Eastern Division the general health of the herds was considerably better than last year.

91. The Northern States were practically free from the disease during the year.

92. *United Provinces.*—Rinderpest was very prevalent in these Provinces; no less than 34 districts being affected against 29 last year; but only 6,662 deaths were reported against 7,854 in the previous year. There is very little possibility of organization in this Province owing to the Veterinary Assistants being very few and scattered widely apart, so that at present operations are very difficult. It will be remembered that great opposition to the use of Serum was experienced at first: a very great change has now taken place and it is significant that it was possible to apply preventive inoculation in 22 districts to 1,024 outbreaks and that 86,067 cattle were inoculated. There is still a good deal of opposition in some districts.

93. From enquiries subsequently made in those localities where inoculations were carried out, the results appear to have been highly satisfactory and the mortality small. It is reported that the satisfactory results attending this work are gradually overcoming the prejudices of the people, and that in most districts very little opposition is met with, in fact, during the past year many applications were received from cattle owners in infected localities praying that inoculators might be sent to deal with their animals.

94. The districts which suffered most severely were Banda, Jhansi, Agra, Hamirpur, Naini Tal and Jalaun.

95. *North-West Frontier Province.*—Rinderpest appeared in the districts of Peshawar, Hazara, Dera Ismail Khan and in the Kurram Agency, but the outbreaks were small and localised: only 403 deaths occurring. Preventive inoculation was undertaken in 13 outbreaks and 4,380 contact animals were inoculated. The method proved very efficacious and is yearly becoming more popular, so that outbreaks are reported more promptly.

96. *Punjab.*—In this Province 8,739 deaths from Rinderpest were reported. The districts most severely affected being Mianwali, Lahore, Gujranwala and

Ferozepore: in the remaining districts the outbreaks are reported to have been small, and the mortality insignificant.

97. Contact animals were inoculated in 270 outbreaks and 60,258 cattle were treated. In one case there were 567 deaths after inoculation out of 12,671 animals, or 4·5%, but investigation shows that these were due to inter-current disease.

98. Opposition to preventive inoculation work is reported to be still met with in out-of-the-way places. The Superintendent, however, considers that this will decline to a minimum as the method is usually attended by most successful results and is uniformly appreciated.

99. *Eastern Bengal and Assam.*—The disease has been prevalent throughout the entire Province and with the exception of Sibsagar and Cachar all show an increased mortality. It was especially severe in Barisal where great numbers of both bullocks and buffaloes died. Heavy mortality was also reported from Goalpara 5,405; Nowgong 6,741; Kamrup 6,296; and Darrang 4,679; whilst in Sibsagar and Sylhet the mortality was considerable. In the remaining 16 districts the loss was comparatively small.

100. Inoculation by the Serum alone method was undertaken in 359 outbreaks in 27 districts and 50,194 cattle were inoculated. The falling off in numbers is due to fewer animals having been inoculated by the Special Officer employed in the Surma Valley. There was an actual increase of 15,829 inoculations carried out by this Department.

101. *Central Provinces.*—It is reported that the disease has not been so virulent as usual and the losses were small. The total number of deaths reported is only 2,515. The inoculation of serum was undertaken in 194 outbreaks, and 18,056 cattle were inoculated. The greatest number of outbreaks visited were in Raipur 39; Bilaspur 20; Mandla 20; Amraoti 18; Saugor 17. The inoculations have been generally satisfactory but in some cases the serum has not been properly stored and consequently deteriorated. Arrangements are under consideration for the building of Tahsil serum pits.

102. *Bengal.*—The disease was prevalent more or less throughout the entire Province, but especially so in the districts of the Burdwan, Orissa and Bhagalpur Divisions. The greatest number of deaths occurred in the Sonthal Parganas, 24 Parganas, Sambulpur, Midnapur and Balasore. In the remaining 21 districts the loss was small.

103. Inoculation was undertaken in 72 outbreaks and 11,659 cattle were inoculated. All reports were attended to either by the local Veterinary Assistants or by Inspectors deputed for the purpose.

104. *Madras.*—Outbreaks of a virulent type were reported from South Arcot with 23,393 deaths; Madura 23,049; North Arcot 15,693; Coimbatore 15,519; Tinnevelly 11,715; and Chingleput districts 10,242. The total mortality due to this outbreak was 149,666. The Department is only just beginning and the number of Veterinary Assistants available for duty is totally insufficient to attempt to deal with outbreaks of this magnitude. With a view, however, of showing the people the method, as many men as possible were posted to the infected districts.

105. Preventive inoculation was undertaken in 21 districts in 574 outbreaks, and 50,487 animals were inoculated. It is satisfactory to note that the method is coming to be generally recognised as a useful prophylactic, and there is certainly plenty of scope for inoculators in the Presidency.

106. *Bombay.*—The Superintendent reports that the disease was prevalent in all the districts of the Presidency (except Sholapur) as well as in the City of Bombay. The worst affected districts being Kanara, Broach, Bijapur, Dharwar, Ahmedabad, Kaira, Thana, Kolaba, and Belgaum. The accuracy of the reported numbers of animals affected, is far from satisfactory. It is stated that inoculation has not met with any marked success in preventing the spread of, or limiting the mortality from the disease, owing to the ignorance and objections of the people, and it is stated that in order to overcome the people's

ignorance of and prejudices against inoculation, pamphlets are being issued. As a matter of fact the conditions existing in the Bombay Presidency are no more unfavourable for the extension of inoculation against Rinderpest than those which exist in many other parts of India. The Director does not seem to realize that better results have been obtained in some Native States, where prejudices are surely as deep rooted. No attempt whatever, worthy of the name has so far been made to deal with the serious animal plagues which exist in the Presidency. There are 35 Veterinary Assistants employed of which 33 are engaged in Dispensary work under local bodies. There are obviously too few men to attempt to cope with outbreaks of Rinderpest, and there has been so far absolutely no organisation whatever. It is hopeless to expect to make any headway in these circumstances, and the amount of success achieved is not less than might have been expected.

107. It is reported that 41 outbreaks were attended to, and 7,009 cattle were inoculated.

108. *Anthrax.*—This disease was dealt with more or less fully in my last Annual Report and I have little to add to the remarks therein made. The orders in regard to this disease are that every effort should be made to obtain accurate information regarding its prevalence and importance. Arrangements are being made in the more advanced Provinces to do this, and material is being sent in either to Head Quarters or to one or other of the College Laboratories for diagnosis. It is hoped that the tracts in which the disease occurs may be mapped out in the course of time and an idea obtained as to what steps should be taken in regard to it. But this will necessarily take a long time and meanwhile as it is impossible to adopt any of the known methods of prevention by living vaccines, we have to content ourselves with the use of Serum in the course of such outbreaks as are definitely diagnosed by competent persons.

109. So far as the present figures show, Madras is the only Presidency where there is much Anthrax, but I am very doubtful about the figures as there has been no confirmation of the diagnosis. Only 17,790 cases were reported from the whole of India and of these Madras contributed 12,511. The best progress in diagnosis has been made in Eastern Bengal and Assam, whence the Superintendent reports that there were 37 outbreaks in 5 districts where preventive inoculation was carried out during the year. The diagnosis was confirmed in the outbreak at Dacca, two outbreaks in North Sylhet and one at Sibsagar. All the outbreaks in Cachar and Sylhet are reported to have been diagnosed microscopically. Two hundred and thirty-four horses, 7,126 cattle and 88 other animals were inoculated, and of these 8 horses, 26 cattle and 2 others died.

110. The Superintendent of the Madras Presidency reports that inoculations for Anthrax were carried out in five districts and 2,353 animals were inoculated, but no details regarding diagnosis are forthcoming.

111. *Black Quarter.*—Enquiries are being made in those Provinces which are sufficiently advanced regarding villages where this disease is serious enough to warrant the adoption of preventive measures. Owing to the manner in which it appears and the rapidity with which deaths result, reports are seldom made to this Department. Only 10,299 cases were reported during the year.

112. The method of inoculation against this disease is that by a single vaccine, and we have until recently, been using Blacklegoids which have generally given good results. During the year the Imperial Bacteriologist has prepared a single vaccine which he claims to be superior to the Blacklegoids. It is now being tried in the field.

113. Only 6,211 inoculations were performed during the year. 2,603 in the Punjab and 3,605 in the North-West Frontier Province. Major Walker reports that the results have been most satisfactory, and Mr. Carless states that his inoculations were carried out in 24 villages where the disease occurs regularly, and that the results are being carefully checked.

114. *Hæmorrhagic Septicæmia.*—As our knowledge of the diseases of animals in this country extends, it becomes more and more evident that this

disease ranks next in importance to Rinderpest. It is satisfactory to note therefore that a contribution to the study of the malady has been made by Mr. Gaiger of the Punjab Veterinary College which is being published in the Journal of Tropical Veterinary Science. Nothing definite regarding the manner of spread in the field has been discovered, but it appears pretty certain that the virus is not taken in through the digestive system but that it is a wound infection.

115. The Imperial Bacteriologist has also studied the disease from the point of view of obtaining a method of giving protection against it. He claims to have discovered a vaccine which will confer solid immunity up to at least three months, and this is as much as we can expect from a dead vaccine. The details of this work are published in his Memoir No. 1. The vaccine is now being issued for trial in the field. If it confer the immunity claimed, it will be of great use in the districts, for if used in young buffaloes during the rains it will carry them through the dangerous season and many will have a chance of getting the immunity which animals naturally acquire against this disease as they grow older. A vaccine which gives the immunity claimed for this one, is a great advance on anything we previously possessed, and the various Superintendents who so earnestly desire a means of protection should be glad to give it a fair trial.

116. Hæmorrhagic Septicæmia is reported to have caused 34,124 deaths; the great majority of which occurred in the central inundated districts of the Punjab—20,822 deaths.

117. Eastern Bengal and Assam report 8,040 deaths but in the other Provinces the staff has been too small to collect much information.

118. The new vaccine has been given a trial in the Punjab and United Provinces, and as far as can be ascertained at present the results have been satisfactory in the latter. It is, however, too early to allow of a definite conclusion being arrived at. The issue of the old serum was stopped last year but a certain amount which was in hand was used in the Punjab at the special request of the people who had faith in it. This accounts for the number of inoculations shown in that Province.

119. *Foot and Mouth disease.*—This disease has been exceedingly prevalent practically all over India and 26,472 deaths were reported to this Department. The figures are very inaccurate as deaths are not usually reported. The disease sweeps as a huge wave over a large extent of country and practically nothing can be done to prevent spread owing to its extremely contagious nature. Fortunately, as the very great majority of cases are amenable to treatment, many lives can be saved by the adoption of simple remedies, and the Veterinary staff do very good service in treating or advising treatment for animals suffering from it. The simplest bazaar medicines are useful and many animals which would otherwise die or become useless are cured.

120. The Superintendent, Eastern Bengal and Assam remarks :—"On two occasions this year I have seen animals suffering from Foot and Mouth disease dying at the rate of 35 per cent. Through carelessness and ignorance the wounds had been allowed to become contaminated by flies and the animals were really dying from blood poisoning." This shows what may happen when skilled assistance is not forthcoming.

121. *Piroplasmosis.*—This disease exists to some extent in certain parts of the country, but so far as can at present be ascertained by the small staff at our disposal, it does not cause any serious loss. It is mentioned in the reports of Bombay, Punjab, and the United Provinces.

122. In the United Provinces a few cases have been brought to the notice of the Department and there is no doubt that the disease is responsible for a certain amount of mortality.

123. Some cases have been observed in the Central Provinces but the disease was, as a rule, of a mild type and it was only when it was complicated with some other infection, that loss occurred. It is, however, said to be responsible for emaciation and debility.

124. An outbreak of the disease occurred at the vaccine depôt at Belgaum, but no details are given as to mortality, &c.

125. *Other contagious diseases.*—The number of deaths amongst cattle from other contagious diseases which have been reported to this Department was 74,080; the majority being from Madras, 44,988; whilst 17,939 were from Eastern Bengal and Assam and 8,895 from the Punjab. No satisfactory information is forthcoming regarding the rest of the contagious diseases known to affect stock in this country, nor of the numerous parasitic diseases from which they suffer. As the Department expands we may expect more work to be done in this direction.

Camel.

126. *Contagious disease amongst other animals.*—Mr. Leese, the Officer investigating Camel diseases, has submitted an able and detailed report of the work carried out on Camel diseases during the year. He was engaged from the 27th April to September at Mohand on experiments and observations in connection with the rôle played by biting flies in the transmission of Surra. A detailed report of this work has been submitted to Government. The experiments are of considerable interest on account of the proof which has been obtained that the Tabanus, Hæmatopota and also Stomoxys are all capable of transmitting the disease mechanically. It appears certain that the importance of the various flies as factors is not equal : the larger Tabanidæ are the commonest and most potent factors in the spread of Surra in the camel. The Hæmatopota are next, and the Stomoxys is only an occasional agent. This agrees with the observations made in other countries and explains how it is that a few cases of Surra often occur in an outbreak after the disappearance of all but the Stomoxys.

127. Unfortunately, conditions were not suitable for the prosecution of experiments to ascertain whether the trypanosoma of Surra undergoes any development in a particular fly. Recent observations in Africa seem to show that there is a great probability that a Tsetse fly does act as a definitive host for *T. gambiense* and *T. brucei*, and a trypanosome of the *T. dimorphon* type. There do not, however, appear to be the same grounds for suspecting that the theory applies to Surra ; in fact the evidence so far available points in the other direction, and the only conclusion so far justifiable appears to be that biting flies simply transmit the disease mechanically.

128. Mr. Leese found it impossible to keep the Tabanus alive. His experiments with Mosquitoes appear to furnish evidence against a cycle of development of the trypanosome in the Mosquito and he did not obtain any evidence in support of any cycle of development in Stomoxys; there was a good deal of evidence, on the other hand, against it.

129. Mr. Leese has worked very hard in collecting information regarding the Surra zones in the grazing grounds, and the knowledge so far gained cannot fail to be of the greatest possible benefit to the State.

130. Surra has been very severe in Camels this year, partly owing to the heavy rain-fall and partly to some of the Corps having taken part in the Frontier expedition and worked in fly zones during the Surra season. There is much valuable information in Mr. Leese's report on this subject.

131. The treatment of Surra in the Camel has received attention both at the Lahore College and by Mr. Leese. Atoxyl, Orpiment and Emetic have been tried but the results so far obtained have been negative; and although it has, in some cases been found possible to keep the trypanosomes out of the blood, they have invariably returned when the treatment was discontinued. Mr. Leese's experiments were much hampered for want of proper accommodation. He makes the following remarks in addition to the report already submitted on the Prophylaxis of Surra :—

"(i) That hill-camel breeding should be encouraged in the North Punjab in the areas which were mentioned and on the lines suggested in the report on Camel breeding sent to Government in February 1908. This would provide Surra-free remounts, suitable for

Frontier work for the 3 Corps which draw their men from north of the Salt Range and would set free a large number of camels to help to remount other corps and to check the increasing prices.

"(ii) That as the camel grazing country of the Punjab is by extension of canals in certain districts, becoming so limited, and as this is acting so injuriously to the health of camels in the plains, sacrifices should be made in the healthier districts in which sufficient grazing is available, so that corps camels may remain in safety from Surra during the dangerous season; this would cause a greatly decreased death-rate in the camels, and relieve the strain on the camel supply. These sacrifices would be the opening of some of the rakhs in and to the north of the Salt range which have been closed for years to camel browsing. The closure of these rakhs has resulted in a great decrease in the breeding and supply of hill camels from healthy districts, and an enhanced price. It is a matter of great urgency.

"(iii) That where military requirements will allow it, the rest period of the corps camels should be adjusted so as to cover more fully the worst part of the Surra season, which in the Punjab is the rains and the following six weeks. In some corps the rest period begins on 1st June and ends on 31st August, and in these cases, from the Surra standpoint it would be much better if the rest period were made to begin about 30 days later.

"(iv) The Surra season will even then slightly overlap the rest period. As far as possible no concentrations or parades of camels should therefore be made which would cause them to march through irrigated or riverine areas or the foot-hills of the Himalayas before the 15th of October. If movements are necessary before that date, double marches are desirable through extensive irrigated districts, or night marching across narrow belts of irrigation (such as occur in Shahpur or Lahore districts) or (where possible) across belts of land subject to inundation from rivers and nullahs (such as the Deg Nullah); the camps should be made on high-lying land well away (½ mile) from standing water but protected from cold wind and in the foot-hills it would besafer, before about 15th October, to give rations than to send out to graze, provided the camping ground is well chosen. (These rations however should include a full missa bhusa ration.)

"(v) In May and June before the true "Surra season" a fair number of Tabanus are to be found in some Surra zones where there is a constant supply of standing water; the worst instances of this are to be found here and there in the foot-hills below the Himalayas, and certain localities on the North-West Frontier. In a corps containing much surra, these flies may spread infection and cause new cases and precautions similar to those given in paragraph (iv) are advisable when working camels there, for as a rule it is impracticable to avoid these zones in May and June.

"(vi) The examination of the blood of camels for surra should be part of the routine of a camel corps. The best time theoretically for this routine would be the rainy season; but owing to the conditions this is as a rule hardly practicable. The next best time is at the inspections at the end of the rest period; at this time every camel (in those corps which have a high mortality) should have its blood examined irrespective of its condition or temperature; most of the cases are of a few months or weeks duration and are showing trypanosomes pretty often. There is not the same ease in picking out cases after the end of the year because as the surra cases get older they do not show trypanosomes so often.

"This routine should be as far as possible repeated at inspections throughout the year. In these routine examinations, two things are of vital importance :—

"(1) Thorough disinfection of the scissors between the testing of each camel (for the disease is easily spread by inoculation).

"(2) The Commandant himself should see that when trypanosomes are found, the blood containing them has been taken from the right camel.

"All cases of fever, mange or debility on the sick list should have their blood tested daily. To do this work, each corps should have at least two microscopes (about 80 rupees each) instead of one, and each regiment to which camels are attached should have one.

"(vii) In my opinion there is room for improvement in the matter of using the microscope when purchasing camels. The method of diagnosis is of course an imperfect one, as sometimes the blood, is free from trypanosomes for days together; until a better means of diagnosis is discovered, however, the microscope should in every case be used, and will prevent a great deal of trouble, especially in the last two months of the year. That very many camels with surra are purchased by camel corps annually is a fact.

"To insist on first class condition is a considerable (though not an absolute) safeguard when purchasing especially at the end of the cold weather; and in this connection the condition of the hump can only properly be estimated by actually feeling it with the hand. This year has been exceptionally dangerous for the risk of purchasing surra camels, because of the exceptional rains. Purchasing is becoming very difficult in many districts; and no great improvement is likely to occur until grazing is opened on a large scale for camel-breeding in healthy districts."

132. A report has also been submitted and published ou Camel pox, and work has been commenced on the study of Tuberculosis, Jhoolak, Anthrax, Foot and Mouth disease, Wail, Mange, Filariasis and parasitic diseases.

133. In regard to Foot and Mouth disease, it appears probable that, contrary to the opinion expressed by such European and American authorities as Law, Friedberger and Frohner, Theiler, Gray and Steel, the disease is by no means common, if it occurs at all, in the Indian camel. Mr Leese states that he has been constantly on the look-out for this disease which is such a great scourge to other ruminants in the Punjab, but has never found nor heard of a case. He has camped for months and kept from 20 to 25 camels grazing in localities in which Foot and Mouth disease in cattle has been at its height but no case has occurred in his camels. His attempts at transmission from the ox to the camel have failed.

134. If these observations be confirmed by further enquiry, it will prove that the camel has an added value in being little susceptible to Rinderpest (Lingard) and Foot and Mouth disease, two of the most widespread cattle plagues of India.

135. Every effort has been made to disseminate practical knowledge of Surra amongst officers and others working amongst camels, and a short pamphlet, written in simple language, is being printed for circulation amongst those who are interested in the matter.

136. Proposals have been submitted for the erection of a small hospital and laboratory for the study of camel diseases at Sohawa in the Punjab. When this is ready, the work will be greatly facilitated and many points which cannot now be taken up will be worked out.

137. It is of great importance, for instance, to definitely decide on the susceptibility of the camel to the various contagious diseases which affect other stock

in this country. It is hoped that sanction may soon be obtained for the erection of the necessary buildings at Sohawa, so that work may make more rapid progress.

138. *Rabies.*—Still continues to be exceedingly prevalent and some suggestions have been made to attempt to limit its spread. This may be possible in certain favoured places, but as a rule the local conditions are such that it is impossible to do much. Cantonments and Municipalities may doubtless do a little by imposing a dog tax and making it compulsory to register dogs, and making them wear a collar and tag. The destruction of as many ownerless dogs as possible, is very desirable from many points of view as they not only carry rabies but also some parasitic diseases, and arrangements are generally made by Municipalities to see that this is carried out. **The dog.**

139. *Dysentery.*—A very fatal form of contagious Gastro-enteritis exists amongst dogs in India. It is extremely fatal to dogs in Lahore where it is reported to have wiped out, at least, one-third of the imported dogs during last winter. The pariah seems to be immune, or carries the disease in a chronic form. The purer bred the dog the more liable he is to the disease, and the sooner he succumbs when attacked. The chief symptoms are those denoting Gastritis and Dysentery. A note on the subject has been prepared by Mr. Gaiger and is being published in the Journal of Tropical Veterinary Science. It appears probable that the disease is carried by Ticks.

140. *Piroplasmosis.*—The disease due to *Piroplasma canis* and carried by the Tick *Rhipicephalus sanguineus* appears from further enquiries to be a widespread and fatal one to imported dogs, and to cause very serious losses in them. The Karachi hounds suffered severely during the year. The chief interest which attaches to this disease is the announcement made by G. F. H. Nuttall and S. Hadwen of the successful drug treatment of the malady. They have discovered that Trypanblau and Trypanrot are highly efficient remedies in the treatment, and that the drugs exert a direct and observable effect upon the parasites (*a*) by causing the pyriform parasites to quickly disappear, and (*b*) in most cases, by causing the total disappearance of the parasites from microscopic observation in the peripheral blood.

141. The disappearance of the parasites from the blood is usually temporary, as they re-appear in small numbers after an interval of 9 to 12 days but the dogs, as a rule, show no symptoms, and gradually progress towards recovery. In 21 dogs of all ages and varieties of breeds, many of them highly susceptible puppies, 12 were subjected to curative treatment and 8 acted as controls. Out of 10 dogs treated with Trypanblau 7 made a good recovery, and 3 small wormy puppies died. Six of the controls out of seven, died of Piroplasmosis 7—12 days after inoculation. The dose of the drug used varied with the weight of the dog. One dose sufficed. 4½ c. c. of a saturated solution of Trypanblau were given to a dog weighing 18 lbs.; 5·5 to one of 20 lbs.; 10 c.c. to one weighing 57 lbs., and 1·5 c. c. of a 1 per cent solution to a puppy of 1½ lbs.

142. The only drawback to the treatment appears to be that the drug, being a dye, causes a distinct blue coloration of the skin and mucous membranes of the animals which have been subjected to it; and this coloration persists for some time. This, however, is a small matter against saving the life of a valuable dog. I have mentioned this treatment in the hope that it may be given a fair trial in this country, and that it may be the means of saving the lives of valuable dogs. I have no means of trying it myself but should be glad to hear the results obtained by those who are in a position to do so.

143. A full account of the experiments will be published in the Journal of Tropical Veterinary Science.

144. *Surra.*—Further proof of the natural infection of dogs with surra, has been forthcoming during the year; the whole of the Foxhounds belonging to the Lahore Hunt having been wiped out by the disease. The peculiar feature of the disease was that it was discovered on the 1st of March, or immediately after the cold weather when there are no biting flies. It appears most probable

that the disease was contracted, in the first instance, by a jackal which had eaten an animal dead of surra, and had been subsequently pulled down by the hounds and eaten by them. Both fleas and lice were found on the affected animals and as these insects have been conclusively proved to be capable of transmitting surra from dog to dog, rat to rat, and rat to dog, it seems highly probable that they spread it amongst these hounds, every one of which contracted the disease and died from it.

145. Musgrave and Clegg's experiments regarding the transmission of the disease by fleas, were carefully conducted and all sources of error were eliminated. They placed dogs in an area covered by sand and protected from insects by screens: a dog proved to be free from surra by animal experiment was separated from a surra dog by means of a screen to prevent them from touching each other, but at the same time allowing free passage to fleas. The healthy dog developed the disease on the 6th day. The experiment was repeated a number of times with positive results. All animals were then removed from the flea infected area and only healthy ones introduced after periods varying from 24 hours to 4 weeks. Although the fleas in the sand remained quite plentiful no infection occurred. It seems improbable therefore that the transmission is other than mechanical; there certainly being no evidence of distant transmission or of a life cycle in the flea.

The Fowl.

146. *Fowls.*—Fowl spirochætosis is widespread, and causes much loss in imported fowls. Information is gradually being collected in regard to distribution. The attention of the public has been directed to the importance of getting rid of the Ticks *Argas persicus.* An article on the subject has been published in the Journal of Agriculture.

147. *Chicken-pox.*—Attention has also been directed to the extremely contagious nature of *Epithelioma contagiosum*, and the persistence of the infective material in infected fowl runs. The necessity for disinfection and destruction of dead birds is urgent as the disease is common and causes considerable loss in chickens.

148. *Other diseases.*—Table IV gives the number of animals treated and castrated by Veterinary Assistants on tour. The number of Veterinary Assistants employed was 472 against 403 last year. They visited 64,380 villages against 52,827 last year; treating 342,247 cases, of which (excluding 2,550 castrations) 189,124 were of contagious diseases and 150,573 non-contagious maladies, against 136,481 and 156,497 respectively last year. This increase of 46,719 may be regarded as very satisfactory.

Veterinary Hospitals and Dispensaries.

149. Table V gives the number of these institutions, the Veterinary Assistants employed, and the number of cases treated.

150. From this it will be seen that there are 380 of these institutions now at work in the whole of India and Burma against 336 last year; or an increase of 44. There has been an increase of 5 in the United Provinces; 9 in the Punjab; 2 in Bengal; 3 in Bombay; 5 in Madras; 1 in the Central Provinces, and 3 in the North-West Frontier Province. The number in Burma shows an increase of 15.

151. The total number of in and out-patients treated is 428,402 against 335,035 last year. The increase in the Punjab is very great, 48,252 more than last year. The work of providing suitable accommodation in that province is progressing satisfactorily. Out of the 86 Veterinary Hospitals 54 are built according to the standard plan which provides excellent accommodation.

152. Of the remainder, 7 are accommodated in suitable buildings and the others are in temporary quarters. With the help of the Government grant supplemented in some cases from local funds, it is hoped that suitable accommodation will in time be provided for all. This is one of the few provinces, which has placed a reasonable proportion of the special grant made by the Government of India for the development of Agriculture and Veterinary Services, at the disposal of the Superintendent, Civil Veterinary Department for Veterinary purposes. I understand that a lac of rupees has been sanctioned for five

years for this purpose, and I think that both the Director and Major Walker have every reason to congratulate themselves on the results, as the institutions are generally appreciated by the people and are indeed a very great success in every way.

153. In the United Provinces, 5 Dispensaries have been opened; Agra, Farrukhabad, Fatehpur, Ballia and Azamgarh; and others are to be started at Moradabad, Bareilly, Meerut and Saharanpur. This province, where the inferior institutions provided are doing excellent work, is greatly hampered by the lack of funds, but it is hoped that in the near future a substantial portion of the special grant may be set aside for the purpose of building a well equipped hospital on the standard plan at each head-quarters of a district. It has been abundantly demonstrated that where properly controlled and in the charge of capable Veterinary Assistants the educative effect of these institutions is very great indeed, and they have a very good effect in inducing the people to report outbreaks of contagious disease and have them dealt with by proper methods. There can now be no doubt whatever that the people of the United Provinces thoroughly recognise the benefits derived from the Veterinary Department and that they are anxious to have the operations of the Department extended. The great drawback is that the local bodies have not the funds at their disposal to erect really good and well equipped hospitals.

154. In the North-West Frontier Province a new hospital was opened at Abbottabad and a Dispensary at Hangu.

155. In the Central Provinces the buildings for the Nagpur hospital were completed and occupied.

156. In Bengal two new dispensaries were opened at Chapra and Bhagalpur, and the one at Khulna was closed. Proposals were made by the Chairmen of the District Boards of Hooghly and Champaran and Sub-Divisional Officer at Bettiah for dispensaries.

157. In Madras six new hospitals were opened, *i.e.*, one each in Cocanada, Rajamandry, Trichur, Ellore, Tirrivannamalai and Tanjore. There has been an increase in the number of animals attending, which has this year averaged 2,348 per hospital, and the Superintendent thinks that they are becoming more widely recognised and popular.

158. In Bombay 4 new dispensaries were opened during the year; two in the Satara district, and one each in the Thana and Kanara districts. The buildings of the new City dispensary in Poona have been completed and this has been greatly assisted by the liberality of Rao Bahadur Shet Ram Narayan Amarchand, who contributed Rs. 12,000 towards the cost of the buildings: a fact which rather indicates that these institutions are appreciated by the people. The average of cases treated is over 2,266 per dispensary, and as some of them have been recently started, and the Veterinary Assistants in charge do other work, the number is satisfactory. A large proportion of the animals treated are the property of cultivators and the cultivating classes generally are reported to be availing themselves of the benefits of these institutions more and more from year to year. The Superintendent remarks that "the general utility of the dispensaries has been recognised by Government for some years past and their growing popularity tends to show that they are appreciated by the people. In addition to their ordinary function of providing treatment, they act as centres from which a correct knowledge of the care and rational treatment of live stock can be spread. The educative side of the dispensary is often overlooked." I can only say that in other Provinces where dispensaries are numerous they have been eminently successful in this direction, and have brought the existence of the Veterinary Department to the notice of the people. I consider that they are absolutely necessary to bring the Veterinary Assistants in touch with the people. One or two Veterinary Assistants in a district with no hospital or any other visible sign of their existence are not likely to get much in touch with the hundreds of thousands of inhabitants spread over a large area; whereas the provision of a good hospital immediately attracts attention and is a subject of conversation in the surrounding country.

Thus hospitals in the tahsil towns are a very valuable means of spreading knowlege amongst the people.

159. Table VI shows the receipts and expenditure on Veterinary hospitals during the year. In some provinces fees are levied on Income-tax payers, cultivators' animals being treated free of charge. The fees are very small. In the Punjab the income from this source has risen from Rs. 7,198 last year to 12,444 this year The Veterinary hospital at Simla shows a small profit to be credtied to Provincial funds after paying the salary of the Veterinary Assistant and the interest on the capital cost of the buildings.

III.—BREEDING OPERATIONS.

(1).—BOVINES.

160. Every endeavour has been made during the year to draw attention to the important subject of cattle breeding and in some provinces with a good deal of success. Serious consideration must be given to this matter if we are to avoid infinite trouble and inconvenience in the future. Notwithstanding the comfort which may be derived from the perusal of the census reports which generally tell a flattering tale, there can be no doubt whatever that there has been a serious decline in the breeding industry proper in most provinces on account of the decrease in grazing available, while on the other hand cultivation has greatly extended and the demand for plough bullocks has correspondingly increased. The extension of cultivation tends to destroy the cattle breeding industry. The growing of crops is generally a far more profitable occupation than is the breeding of cattle. When profitable cultivation is possible and grazing non-existent the cultivator does not want to be bothered with cows for breeding purposes as he finds it difficult enough to obtain a sufficient amount of fodder to feed his plough cattle. Stall feeding is far too expensive a business to allow of his breeding nor are the conditions suitable for the industry. If wealthy enough he will keep a cow buffalo in preference to a cow for milch purposes because it will give double the amount of milk from which he can obtain double the yield of *ghee*. In highly cultivated tracts therefore it is the general rule to find good bullocks but not many cows worth anything for breeding purposes. The ideas held by some people that much good would be done in such tracts by inducing the cultivators to set aside cultivated land from which they are now deriving a good income, as grazing grounds and inducing the people to grow fodder crops for breeding stock is purely Utopian at the present time and not in any way a practical suggestion. It is far more likely and indeed occurs far more frequently for the grazier to become a cultivator than for a cultivator to become a grazier. There do exist districts in which cultivation has not so far extended as to entirely destroy all the grazing grounds and in such places a certain amount of breeding does go on and could be encouraged. Our present efforts should be devoted so far as possible to bettering the condition of the grazier, to preserving, so far as may be, existing grazing grounds, assisting the smaller graziers who have partially taken the place of the older breeders by providing them with really good well bred bulls for their herds. It will be found that in the highly cultivated tracts the majority of the cattle are purchased from outside and at present this outside supply must be fostered and encouraged.

161. Much good may be accomplished by encouraging breeders by the supply of good bulls in such tracts in cultivated districts as contain grazing. It is very evident to the most superficial observer that many of our best breeds of Indian cattle are deteriorating or in some cases absolutely dying out and that their places are being taken by inferior cattle. It is our obvious duty to preserve good bulls of such breeds in Government Farms. What is more necessary than anything as a beginning is to carry out the instructions contained in the Department of Revenue and Agriculture Circular No. 30—102-2, dated 21st September 1906, and to have a careful

survey of the country made in regard to its suitability or otherwise for cattle breeding. This survey of the breeding industry or survey of cattle is the first step to be taken. Whenever the question is discussed amongst those officials who are supposed to direct such work the chief thing that strikes one is the appalling ignorance which exists on this subject of the supply of and demand for agricultural cattle and of the breeding industry generally. As a matter of fact until such knowledge is forthcoming it is impossible to know what can be done. The Government of India have fully realized the necessity for this survey and it is for local Governments to take measures to get it carried out. Cattle breeding is one of the duties which is supposed to be dealt with by this Department but we have no staff and local Governments have so far taken no measures to provide any. Much can be done to improve matters and the conferences which it is proposed to hold on the subject in the United and Central Provinces will have a good effect; the only drawback to them will probably be the lack of collected information from each district which should form the basis of the deliberations. There can be no doubt whatever that if Provincial Governments take up this matter seriously much can be done to save the situation and to postpone the unhappy day when more serious deterioration has taken place, good bulls and cows have further decreased in numbers and when the supply will have become too small for the requirements of the cultivator in plough bullocks and when it will become imperative for breeding to be carried on with stall fed cows. Under present conditions good cattle are becoming scarce and the prices of such animals are increasing by leaps and bounds. All cattle are rapidly rising in value and the quality generally is deteriorating. What the price of good plough bullocks would be in the circumstances so complacently looked forward to by those who talk of land coming back from cultivation to grazing as a more profitable pursuit or of breeding from stall fed cows for which fodder has to be grown, may be easily imagined. There are of course tracts where cultivation yields so uncertain a profit that grazing might do as well but the land must be practically useless also as grazing land. This Department, excepting in so far as it is nominally responsible for cattle breeding, has no complaint whatever against the rise in value of agricultural stock because the scarcer and more expensive they become the greater will be the demand for our services to prevent them being carried off by plagues or to treat them for ordinary ailments. This appreciation of the services rendered is already growing rapidly and is greater than seems to be generally recognised. Conferences on the subject of cattle breeding cannot fail to be of service in every province. District Committees of men qualified to give valuable advice on the subject might well be formed and the question carefully studied. Such Committees will be in a good position to advise the Provincial Officers as to what if anything can be done to improve cattle breeding. Wealthy Zamindars should be encouraged to maintain herds of the best local cattle. Courts of Wards, Jails, Agricultural Farms, Agricultural Colleges, etc., should all maintain good herds and act as distributing centres. Whilst district farms in suitable areas should be inaugurated.

Stud bulls and their produce.

162. Table VIII gives the number of Stud bulls, the property of Government and of local boards during the year. The information given under this head is in some cases very meagre and there are probably many more such bulls employed than are shown in the table. There is still a small but steady increase in number but it is somewhat insignificant, *i. e.*, 38 Government bulls against 30 and 536 Local Board bulls, against 458, last year; of these no lesst han 437 are in the Punjab and 40 in the United Provinces, the numbers in the remainder of the provinces being very small. The Punjab has a declared policy and in pursuance of it 117 bulls were obtained during the year—a very satisfactory increase. The grant for Veterinary improvements enabled districts to buy more bulls than they would otherwise have been able to afford. Here again the wisdom of making a fair distribution of this grant between Agriculture and Veterinary is evidenced.

163. Major Walker remarks "District Boards were reminded that they are "practically in entire charge of cattle breeding and that arrangements for

"seeing that stud bulls are properly looked after are purely a district concern. "This Department has laid down general principles but local conditions vary "and the subject should be very interesting to rural members. In localities "where bulls are appreciated and used intelligently the young stock show "signs of great improvement since selected bulls have been more liberally "supplied. With the rise of prices of bullocks cattle breeding on intelligent "lines requires to be fostered by local interest." Local committees in other words would be best entrusted with this duty.

164. In the United Provinces the same lack of funds for advancing Veterinary work stands in the way of much improvement being effected in the supply of bulls and although some of the district boards are now becoming alive to the necessity of doing something towards improving the class of cattle in their districts and bulls are wanted, they cannot afford to buy them. No doubt the forthcoming conference will help to put matters on a more satisfactory footing in this respect. Most of the bulls are at present the property of Court of Wards estates where interest is being shown in the question of cattle improvement.

165. In the Central Provinces a great deal of attention has been given to the subject especially in the eastern part of the province where the cattle are extremely poor and badly cared for. A special report has been made to the Hon'ble the Chief Commissioner. As the question is of the utmost importance from an agricultural point of view, it is hoped that the enquiry may result in some improvement in the present deplorable condition of the working cattle of the province.

166. In Bengal there have been many demands for bulls from various public bodies and private persons but only ten could be distributed. The question of providing strong, well made, low sized *desi* bulls for the improvement of stock is receiving attention and provision has been made in next year's budget for the purchase of young bull calves. The want of bulls in most parts of the province, especially in Muzaffarpur, Champaran, Durbhanga, Purnea and Shahabad, where good cattle are reared is very keenly felt; wherever the farm bred bulls have been sent the ryots have appreciated them. Arrangements are being made by this Department to purchase some Delhi buffaloes for the Hathwa Raj with a view to improving the milking capacity of the local breed.

167. In Eastern Bengal and Assam a good type of Brahmini bull has been obtained for Dacca, Bakarganj, Rangpur, Cachar and Sylhet. Two Patna bulls have been bought for the Khasi and Jaintia Hills.

168. In Madras eight Nellore bulls were purchased at the Ongole fair, bulls of this breed are now distributed to the districts of Tinnevelly, Madura, Madras, Guntur and Vizagapatam. This breed commands a ready sale to purchasers from foreign countries and this year breeders disposed of no less than 472 head to purchasers from the Philliphines, Java and Brazil at high prices. It is estimated that Rs. 60,000 changed hands on this deal alone. It is hoped that every encouragement may be given to breeders in this tract and that the foolishness of selling the best of their cows may be forcibly impressed on them. The ready market and good prices obtained should stimulate cattle breeding in the Nellore district but local prices will of course rise in sympathy.

169. In the North-West Frontier Province 4 bulls were purchased, 2 Dhanni bulls for Peshawar.

170. In Bombay there are no bulls belonging to Government but the Ahmedabad district board has 8, Kaira 5, Surat 1, West Khandesh 1, and Ahmednagar 1. In addition to this, under the wise system introduced by Mr. Orr and continued by his successor Mr. McNeill, 87 bulls have been procured by this Department for the use of the people of the district. The system has proved very successful. The dearth of good stock bulls is becoming keenly felt in some districts and in a great number of cases inferior animals are being used. It is important

that measures should be taken in every district where breeding is possible, to improve and maintain the local breeds.

171. The main results of the working of the Provincial Cattle Farms are given in Table IX.

Bull rearing and breeding Farms and Depots.

172. The largest and most important of these is the Northcote Cattle Farm at Chharodi which has continued under the supervision of this Department during the year, at the close of which the herd consisted of 5 stock bulls, 150 cows, 86 heifers, 30 heifer calves, 6 three years old bulls, 10 two years old bulls, 18 yearling bulls and 22 bull calves. Seven stock bulls were sold. 47 bull calves and 48 heifer calves were dropped; a very good percentage. The farm as a bull breeding one is reported to be just beginning to get into thorough working order and in future years a steady and increasing supply of stock bulls will be available for issue, but at present the demand is greater than the supply.

173. The bull breeding farms and depôts in Bengal are situated at Pusa, Siripur and Kalimpong. At Pusa there are only 49 cows, 1 bull and 55 young stock. Three bulls were sent into the districts. The animals bred are reported to be disappointing in shape, and deficient in bone and substance notwithstanding that the cows and bull are good and the grazing and feeding in general are all that could be desired. It seems very probable that Pusa is no more suitable for cattle breeding than it has proved to be for horse breeding and rearing. The rejections from the young stock are many. The herd is under the management of the Imperial Agriculturist. The Inspector General of Agriculture has decided not to keep the herd after next year. Proposals with regard to the transfer of the herd to the Bengal Government are under consideration.

174. *Siripur Farm.*—There are 42 *desi* cows and 1 stud bull besides young stock. Four bulls are ready for issue and there are 9 selected two-year old stock and 56 calves. Four bulls have been let loose in the *dehat* in the neighbourhood of the farm and are reported to be doing useful work. The results are reported to be satisfactory and are due to the interest taken in the farm by the Superintendent Mr. M. Mackenzie.

175. *Kalimpong.*—This farm was started in January 1908 under the management of the St. Andrew's Colonial Homes, with 28 cows and 2 bulls of the Siri breed purchased in Bhutan. These animals being of hill breed and very susceptible to Rinderpest suffered severely from an outbreak of that disease and at the end of the year only 18 cows remained. Efforts are being made to obtain more cows.

176. *In the Central Provinces.*—Much attention has been given to cattle breeding by the new Superintendent. The Telankheri farm he does not approve of, as the site is not a good one for a cattle farm, the land producing poor grazing and the cattle, being stunted in consequence; moreover the stock is more than the land can carry. It may be considered advisable to change the site of this farm. There are only 46 cows present and a total stock of 166 head.

177. *Powarkhera.*—This farm is reported to be making good progress and the quality and condition of the Malwi herd is good. There are only 21 cows and the total stock numbers 51 head.

178. *Kindri.*—In the Mandla district is very satisfactory and the stock could be safely increased.

179. *Nimkhera.*—In the Ellichpur district is not being carried on as originally intended but there is every reason to think that this condition will be altered and improved. New cattle of the Khamgaon breed will be purchased by the Superintendent.

180. It may be remarked that none of these farms are under the control of the Provincial Superintendent of this Department. The Agricultural Department has, the Superintendent considers, signally failed; as the graduates while capable of looking after the farming are totally incapable of taking charge of

breeding animals, as they lamentably fail in observing changes of condition and health in them. They cannot in fact be trained in Zootechny in this country as the means do not exist at present. It is expected that cattle breeding will be transferred to the control of the Superintendent of this Department in the near future and that Veterinary Assistants trained at our Imperial farm at Hissar will be utilized.

181. In the United Provinces steps are being taken to acquire the land for a bull rearing farm it is proposed to establish as an experimental measure at Kheri. The smaller graziers here badly require assistance in procuring good herd bulls and the people are very hopeful of the success of this venture. Good mature bulls are very difficult to obtain in the open market and unless some definite and progressive policy be adopted it will soon be impossible to obtain suitable bulls for the small graziers in Kheri or for other parts of the province.

182. In the Punjab the scheme for a bull farm in the Jhelum colony has not progressed owing to the difficulty experienced in obtaining the necessary grazing rights. If sufficient grazing cannot be obtained the scheme will probably have to be dropped. The Punjab has the advantage of being able to obtain bulls suitable for many of the districts from the Imperial Farm at Hissar.

Sheep breeding.

183. One has only to read the remarks in the daily papers and in the reports of the Forest Department to realize that the improvement of the wool bearing capacity of the hill sheep is becoming an absolute necessity. It was recently stated that the increase in the size and number of the flocks of sheep which are grazed for part of the year in the lower hills is a cause of anxiety. Whole hill sides are being denuded of forest growth and in Kangra the shepherds have had to leave their hereditary grazing grounds and go elsewhere in the winter. It is asked, is the surplus capacity of the forest areas to be used for the production of wool or of timber. The view of the Local Government is that hill forests must be protected even if this implies putting a limit to the increase of flocks kept for pastoral purposes. In short the sheep will decrease. In these circumstances it is well that operations have been begun on a small scale in the Punjab and North-West Frontier Province to improve the quality as well as the yield of wool of the short tailed *Gaddi* sheep. A few merinos have been imported into the Hazara district and the Tochi Agency. There are altogether 17 Merino rams present, 12 in Hazara, 1 in the Tochi Agency and 4 in Dera Ismail Khan. Their services are appreciated. In order to obtain any real benefit from the operations, numbers of these sheep are required and a constant supply must be maintained so as to gradually grade up the local sheep. A number of New Zealand Alp rams are being imported for the Kangra district and are expected to arrive shortly.

184. None of the other provinces report anything regarding sheep breeding. It offers a great field for enterprise.

Camel breeding.

185. The question of camel breeding in the Punjab has received a good deal of attention. The breaking up of the areas in which camel breeding has flourished is practically killing the industry so far as the supply of military camels is concerned. It may not perhaps be realized that the canal scheme in the Multan district will destroy the only remaining camel breeding area of any size between the Indus and the Sutlej. It is no matter for surprise, therefore, that good camels suitable for military transport purposes are becoming very scarce, high priced, and difficult to obtain. The various schemes which have been made, such as endeavouring to breed camels on canal tracts were doomed to failure and nothing now remains, if the camel is to exist, but to provide grazing in suitable surra free areas. The grazing lands of the Punjab are being surveyed in this connection and proposals have been made to open certain surra free grazing areas for breeding purposes in the Punjab.

(2)—EQUINES (UNDER LOCAL BODIES).

Horse, pony and donkey stallions.

186. The number of horse, pony and donkey stallions present at the beginning of the year is shown in Table X. There were 64 horses, 102 ponies and 99 donkeys against 59 horses, 112 ponies and 65 donkeys in the previous year.

187. They were distributed as follows:—45 horses, 56 ponies and 70 donkeys in the Punjab; 8 horses, 10 ponies and 15 donkeys in the North-West Frontier Province; 44 horses, 6 ponies and 14 donkeys in the United Provinces; 7 horses, 12 ponies in Bombay; 12 ponies in Madras; 1 in Bengal and 1 in the Central Provinces. The slight decrease in number was due to the fact that the United Provinces Government was unable to purchase the full number required during the year on account of lack of funds as was also the Punjab; but these have since been purchased.

188. Table XI.—Gives the services of horse, pony and donkey stallions. There were altogether 166 horse and pony and 99 donkey stallions on the register and of these 55·59 horse, 107·23 ponies and 94 donkeys were actually employed at stud, the number of mares covered being 2,900 by horses 4,770 by ponies, 3,740 by donkeys or an average of 52·17, 44·48 and 39·78. Thus, whilst the horse and pony breeding remained normal, there was a falling off in mule breeding especially in the Punjab and North-West Frontier Province. There is every reason to hope, however, that now that the supply of donkey stallions has been placed on a more satisfactory basis and that the donkeys received from Europe have become acclimatised and are doing good work, mule breeding will improve greatly in the Punjab and North-West Frontier Province. The reason for the falling off in average coverings this year is that the services of the newly imported donkey stallions were strictly limited, so that although a greater number of mares was covered, the average is lower.

189. There was an improvement in horse breeding in the North-West Frontier Province.

190. The slight decrease noted in the United Provinces is accounted for by the recent famine during which many breeders were obliged to sell their mares. The operations continue to be very popular and successful in this province.

191. In Bombay there is a slight improvement, but horse-breeding in the Deccan is reported to be a rapidly declining industry and the stands at Sholapur, Karmala, Nasik, Chalisgaon and Jalgaon have done badly during the year, scarcely justifying their existence. The decline in the Deccan is stated to be due to economic changes resulting in the necessity for horses not being felt by the people to anything like the same extent as formerly; also to the fact that a long series of bad years has forced many breeders to part with their good mares. The Superintendent considers it improbable that horse breeding will long survive in the Deccan.

192. In Gujrat things are somewhat different and the results are more encouraging.

193. The Superintendent of the Central Provinces thinks it somewhat regrettable that no stimulus can be given to horse breeding as the plateaux of Balaghat and Seoni appear to be ideal for the purpose. It would be perhaps as well to profit by previous experience and save our money.

194. An attempt is to be made to improve matters in Madras.

195. Table XII gives the average cost of feed, keep, attendance, etc., of horse, pony and donkey stallions. There has been an all-round increase due to a general rise in prices.

196. Table XIII gives the abstract particulars regarding horse fairs and shows held in the non-selected districts. **Fairs and shows.**

197. Table XIV gives the abstract particulars regarding cattle fairs and shows. 133 were held against 72 last year. The total amount distributed as prizes was Rs. 29,590-12-0 out of Rs. 44,875-13-6 available. One hundred and forty-six medals were awarded against 53 last year. The total number of animals competing for prizes was 80,915 against 14,731 last year and the total number of stock present was 760,812 or about the same as last year. The influence which these shows have on the encouragement of cattle breeding varies considerably in different places and the remarks made last year in this connection express my views on the subject. It is generally not to be expected that owners of good cows and young stock will take the risk of travelling their stock long distances and running the risk of the "evil eye," theft and exposure to diseases for the sake of a small money prize.

198. The prizes which are given at fairs perhaps excite some local interest and as well managed fairs produce a very large income to the districts it is well that a small amount in prizes should be distributed to cattle owners. Shows, if held in convenient places in good cattle breeding centres may excite some interest and they are undoubtedly a great success in some places. It is a matter for Local Governments to decide what is best to be done in regard to shows. Fairs will take care of themselves.

IV.—SUBORDINATE ESTABLISHMENT.

Numbers, supervision and work performed.

199. Table VII gives the strength of the subordinate establishments as they stood at the end of the year. All the services are now Provincial except that of the United Provinces. Bombay has only just arranged to organize the Subordinate Department and it is hoped that some improvement may be possible when the scheme is developed and gets into working order. The development of the subordinate establishment is much hindered in the United Provinces for lack of funds and the Superintendent remarks in this connection that:—"To give effect to the scheme of Government to raise the subordinate veterinary staff to an ultimate strength of 200 by a gradual yearly increase in number, according to the financial position of the District Boards concerned, every endeavour was made to induce these bodies to increase their Veterinary Staff where it appeared most necessary. Nineteen out of 48 districts agreed to do so and it was hoped that at least 30 men would be added to the strength. Many of the District Boards have had to forego their original intention to entertain the additional men with the result that the increase will only be about half that which was originally intended and required. It will easily be realised how hopelessly impossible it is for a Veterinary Assistant to cope, single-handed with a severe outbreak of disease in a large district."

200. In the more advanced provinces there can be no doubt whatever that, the work of the Department is much appreciated and that more assistance, necessitating extra staff, is wanted; the present staff being numerically inadequate to deal with the work, especially when epidemic disease is rife. The weakness lies in the necessity for closing Veterinary Hospitals when men have to go on tour or leave. Two men in each tahsil is now generally recognised as necessary.

201. The lack of trained men from the vernacular College is deplorable. The College has been very much overcrowded and the number of students must be decreased to maintain efficient training. There is a demand at the present time for over 500 men whilst the College cannot train a sufficient number to even replace casualties. Urgent representations have been made to Government with a view to the establishment of a second vernacular College, which is very urgently needed. Now that the magnificent and costly Agricultural Colleges are nearing completion it is hoped that sanction may be given for this College which opens up a useful career to the sons of agriculturists for whom immediate and useful employment is forthcoming.

202. The work of the superior staff, especially is becoming more and more arduous as the subordinate staff and the work increase out of all proportion to its strength. We can obtain no addition to our strength of Imperial officers, and it is clear that if the department is to make any progress in dealing with contagious diseases such as Anthrax, Hæmorrhagic Septicæmia, Black Quarter, etc., we must have a more highly trained native agency, who can give efficient assistance to the superior staff, and who will be capable of dealing with epidemics efficiently in the field. Such officers should be placed in charge of the Veterinary Assistants in workable areas. This it appears to me, must come at once if we are to be efficient and it will necessitate the establishment of an Imperial Veterinary College, training men up to the standard of the European or Continental Colleges and granting a degree of B. Sc. in Veterinary medicine. I think good material can be found in the country.

203. The following table will show at a glance the sanctioned establishments of the various provinces, the number added, and the strength at the end of the year:—

Province.	Sanctioned scale.				No. employed during 1908-09.				Increase during 1908-09.				Remarks.
	Deputy Superintendents.	Veterinary Inspectors.	Veterinary Assistants.	Dressers.	Deputy Superintendents.	Veterinary Inspectors.	Veterinary Assistants.	Dressers.	Deputy Superintendents.	Veterinary Inspectors.	Veterinary Assistants.	Dressers.	
Punjab	...	24	170	...	...	12	127	...	...	...	11	...	
North-West Frontier Province.	...	2	26	...	...	2	26	...	...	...	6	...	
United Provinces ...	2	20	210	...	...	9	100	...	...	...	4	...	
Bengal	9	30	229	...	...	6	56	...	...	...	6	...	
Bombay	4	24	215	...	...	1	34	...	...	1	2	...	
Madras	3	15	132	...	...	2	47	...	...	1	20	...	
Central Provinces and Berar.	...	8	120	...	...	6	75	...	...	...	10	...	
Burma	5	12	120	...	...	10	107	...	...	...	17	...	
Eastern Bengal and Assam.	2	8	120	...	...	2	33	...	...	...	8	...	
Sind, Baluchistan and Rajputana.	...	...	2	...	...	...	11	...	...	...	2	...	
Imperial.													
Government Cattle Farm, Hissar.	1	...	2	...	1	...	2	...	...	...	...	...	
Bacteriological Laboratory.	...	2	...	10	...	2	...	10	...	...	...	...	
Veterinary Officer Investigating Camel Diseases.	...	...	2	...	...	...	2	...	...	...	1	...	
Total ...	26	145	1,348	10	1	52	620	10	...	2	87	...	

PART B.—IMPERIAL ADMINISTRATION.

BACTERIOLOGICAL LABORATORY.

204. Captain J. D. E. Holmes, M.A., D. Sc., was in charge of the laboratory and Mr. H. E. Cross held the office of Assistant Bacteriologist.

205. The appointment of a Physiological Chemist in the place of the second Assistant Bacteriologist was sanctioned and after some delay Dr. Hartley, D. Sc., (London) was selected for the appointment but did not join until the end of the year. Mr. R. Branford was attached to the laboratory. Mr. Kriebel, Head Laboratory Assistant returned from leave in September and the second and third Laboratory Assistants, Messrs. Keiller and Goffi, remained in their respective posts.

PREPARATION OF SERA.

Rinderpest Anti-Serum.

206. During the year under report 545,974 doses have been prepared against 482,833 doses during the previous year. The serum issued amounted to 627,349 doses as against 440,585 doses or 186,764 doses in excess of the previous year.

207. The results of the Anti-Serum injections carried out in the field and collated from the respective returns received in this office are as follows:—

Province.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			REMARKS.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
Punjab	270	...	4,535	...	...	60,258	...	...	613	...	
North-West Frontier Province.	13	...	217	...	...	4,380	...	...	...	...	
Bengal	72	...	1,954	...	...	11,659	...	...	115	...	
Eastern Bengal and Assam	359	...	7,673	121	...	50,194	10	...	444	...	
United Provinces ...	1,024	...	5,198	2	...	85,867	200	...	63	...	At the request of villagers in the vicinity of the Laboratory 113 head of cattle were inoculated during August and September 1908, and all were protected and the outbreak was checked.
Central Provinces ...	194	...	2,515	...	...	18,056	...	...	5	...	
Madras	574	...	18,996	80	...	48,257	2,230	...	64	...	
Bombay	41	...	611	...	...	7,009	...	...	136	...	
Mysore	51	...	2,310	...	...	13,273	...	...	13	...	The Inspector of Cattle Diseases, Mysore, finds that the results have been very successful and the demand from ryots has been very great.
Burma	35	...	456	...	...	2,336	...	...	161	...	
Sind	1	68	68	1	...	1,487	17	...	2	...	
Kotah State ...	1	...	6	...	...	22	...	...	...	...	
Nagod State ...	7	...	2,311 deaths reported since April 1908.	137 Buf.	...	358	42 Buf.	...	8	1	Inoculations were started on 14th February 1909 for the first time in the State.
Total ...	2,642*	68	46,850	341	...	303,156	2,499	...	1,624	1	Death rate 0·40 per cent.

* These figures do not include outbreaks in Military dairy farms.

208. Every endeavour was made to prepare as large an amount of this serum, as possible. The work however was much impeded by continual outbreaks of Foot and Mouth disease, which was prevalent among cattle in the hills throughout the whole year and was introduced into Muktesar almost every month by newly arrived batches of bulls. The segregation of all fresh batches of bulls, the treatment of affected animals and the carrying out of precautions against the introduction of the disease into the laboratory sheds, has greatly increased the work of the Veterinary staff.

209. A proposal was submitted by the Imperial Bacteriologist to erect more kraals for the accommodation of the sanctioned reserve of hill bulls and the Executive Engineer was asked to prepare plans and estimates for the same in consultation with him, but so far no action has been taken in the matter.

210. The Imperial Bacteriologist reports scarcity of water during the months March to June and recommendations have been made by the Executive Engineer to ensure better control over the expenditure in private houses, etc.

211. The demand for anti-Rinderpest serum was greater by 186,764 doses than that of last year and the number of doses issued amounted to 81,375 more than manufactured. As was stated in the last Annual Report the laboratory is working close in the limit of what can be produced.

212. There is no doubt that each year will continue to show a large increase in the demand for this serum. The Ceylon Government and the Native States of Mysore, Coorg, Travancore, Cochin, Junagadh, Dhar, Baroda, Alwar, Kotah, Bharatpur and Nagod desire to be supplied with it. With the increase of the demand in British territory we shall be reluctantly obliged to withdraw the supply for abroad and Native States.

213. Anti-Rinderpest serum is reported to have been successful in curtailing outbreaks and preventing heavy loss among cattle and the popularity it has attained is entirely on its merits.

214. A number of experiments were conducted to ascertain the length of immunity resulting from varying doses of serum and also the effect of exposure to natural infection following the injection of serum. The results appear to show that the passive immunity afforded by large doses of serum is of a few weeks duration, but that when exposed to natural infection during this period animals contract a mild form of the disease without necessarily showing any clinical symptoms, and an active and durable protection follows.

215. Experiments have been carried out by the Imperial Bacteriologist with a view to discovering other methods of immunizing and of preparing serum, but no results of any importance have as yet been arrived at. The use of peritoneal washings as carried out in the Philippines is being tried. It saves 50 per cent in cost of the serum and the experiments so far made are promising.

Anthrax Anti-Serum.

216. Twenty-nine thousand seven hundred and eighty-six doses of this serum were prepared as against 16,091 doses and 30,933 doses were issued against 38,772 doses during the previous year.

217. The following table shows the result of injections carried out in the field with Anti Anthrax serum :—

Province.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated and in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
United Provinces	11	...	59	...	...	953	...	...	2	...	
Madras	29	...	456	...	...	2,353	...	...	...	...	
Eastern Bengal and Assam ...	37	7	320	20	234	7,126	88	8	26	2	
Total ...	77	7	835	20	234	10,432	88	8	28	2	Death rate 0·35 per cent.

218. The decrease in the demand for this serum is due to the fact that, as pointed out in last year's report the Veterinary Departments are not in possession of accurate information regarding the prevalence of Anthrax, and until further facilities exist for its collection and the correct diagnosis of the disease, it is not possible to successfully deal with it. The orders are that serum shall only be used in actual outbreaks in which the disease has been diagnosed properly.

219. Investigations as to the best methods of preparing serum of high potency, the duration of the immunity conferred by serum, and the practical application of the combined use of serum and virus, are being carried out. The Imperial Bacteriologist states that the results arrived at so far indicate that the serum which gives immunity from three to six weeks against the inoculated virus, is of practical value in the suppression of actual outbreaks, and that in areas where Anthrax is endemic, the simultaneous use of serum and virus is a safer and more reliable method of protection.

220. Most of the serum issued has been sent to the Veterinary Officer of Eastern Bengal and Assam. This officer reports that it has had good results and that cattle owners approve of its use.

221. The following is a statement of inoculations performed by the Veterinary Officer in the Surmah Valley. The diagnosis in most of the outbreaks was confirmed in the Laboratory :—

Number of outbreaks.	Outbreak during the month of 1909.	Uninoculated.				Date of Inoculation.	Inoculated.			Serum No.	Dose administered per animal.	Remarks.
		Number died before inoculation.	Number not inoculated.	Number attacked.	Number died.		Number inoculated.	Number attacked.	Number died.			
											C. C.	
1	January ...	6	37	...	...	2nd January 1909 ...	182	...	...	16	20	Standard dose 5 c. c.
2	February ...	8	93	2	1	26th February 1909	399	...	...	16	20	Mr. McCaldron notes that the opinion of people is good.
	,, ...	3	20	...	...	27th ,, ...	25	...	...	16	10	
	,, ...	11	107	4	3	17th ,, ...	382	...	...	16	20	
5	March ...	9	86	11	6	3rd March 1909 ...	305	...	...	16	20	
	,, ...	20	1,130	125	12	17th ,, ...	150	3	1	16	10	
	,, ...	5	290	...	...	21st ,, ...	395	...	...	16	10	

222. The serum was also used in an outbreak of Anthrax among the Poona Horse. The return furnished by the Veterinary Officer shows that from January to May 1908, 74 horses and mules had been attacked. On 21st May inoculations with the serum were commenced and continued up to July. From the former date, four cases occurred in June among the non-inoculated, and among the inoculated three were attacked more than three weeks after the serum injection. No further cases were recorded.

HÆMORRHAGIC SEPTICÆMIA.

223. The preparation of anti-serum or vaccine of high protective power was under investigation. A serum has been prepared which in doses of 5 to 10 c. c. affords complete protection against the inoculated virus for a period of six weeks, also a dead vaccine which protects for a period of two to three months. These products are under trial as to their suitability for field operations. The serum is not likely to be of much use but the vaccine may be, if used during the rains in villages where the disease is enzootic. 5,140 doses of the new vaccine were prepared and 3,500 doses issued on trial.

224. The following statement shows the results of injections carried out in the field both with the old Anti-Serum and vaccines:—

Province.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			* Number of animals which died after inoculation.			Remarks.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
Punjab	42	...	380	...	...	6,205†	...	...	13	...	* These figures are not reliable.
United Provinces	49	...	225	...	...	3,854	...	...	35	...	†Chiefly with old serum.
Madras	5	...	47	...	...	477	...	...	...	...	
Eastern Bengal and Assam ...	1	...	73	...	...	350	...	...	...	...	
Total ...	97	...	725	...	...	10,886	...	...	48	...	Death rate 0·44 per cent.

225. The Imperial Bacteriologist remarks: "With regard to the efficacy of Hæmorrhagic Septicæmia vaccine, the Superintendent, Civil Veterinary Department, United Provinces, reports that he tried the Vaccine in an outbreak in which 10 animals had died in two days and 4 were sick. One hundred healthy animals were vaccinated and the village kept under observation for three months, but no deaths were reported, except two sick animals (uninoculated) during that interval."

CHARBON SYMPTOMATIQUE.

226. A method of preparing a single vaccine in pillule form has been worked out. The vaccine was tested by a large number of experiments and gave good results. One thousand eight hundred and sixty doses were prepared and 1,310 doses issued to various Superintendents of the Civil Veterinary Department. A special Injector for inoculating the pillules is also supplied with the vaccine.

227. Attempts are now being made to prepare the serum recommended by Leclainche for immunizing against Charbon Symptomatique. This has been asked for by Major Walker for use in actual outbreaks and would prove of great value if used in combination with vaccine in certain cases.

228. Blacklegoids have been largely used in the Punjab and North-West Frontier Province for protecting animals against the disease, and the following

statement collated from the returns shows results in the field. They have proved very successful :—

Provinces.	Number of outbreaks in which inoculation was undertaken.	Number of animals died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
Punjab	16	...	40	...	...	2,606	...	...	1	...	
North-West Frontier Province and North Punjab.	24	...	...	...	...	3,605	...	...	...	...	
Total ...	40	...	40	...	...	6,211		...	1	...	

229. *Mallein.*—9,238 doses of Mallein were prepared as against 3,753 doses during the year 1907-08. The total issue was 9,052 against 7,926 doses last year. Mallein is made from cultures obtained direct from cases of Glanders. Fresh brews are prepared every four months. It is tested before issue.

230. *Tuberculin.*—306 doses of Tuberculin were prepared against 34 doses during the past year. The total issue for the year amounted to 144 doses.

231. *Specimens examined.*—138 specimens were received for examination against 69 during the previous year and the results communicated to senders.

232. *Training of Veterinary Assistants.*—46 Veterinary Assistants were trained at Muktesar and 26 at Bareilly making a total of 72.

233. The following officers of the Civil Veterinary Department worked at the Laboratory.

(1) Mr. G. T. D'Silva, Assistant Principal, Veterinary College, Madras, a course of instruction in sera preparation and Laboratory technique during May and June.

(2) Mr. Gaiger—Investigation work while on College vacation, from July to September.

(3) Mr. Aitchison—Deputed for instruction in methods of Rinderpest investigation in the month of June.

(4) Mr. Cattell—In training from the month of December 1908, up to date.

234. During the year 1908-09 the following doses of sera were prepared and issued from the Muktesar Laboratory:—

Serial No.	Name of Sera.	Opening balance.	Received back from districts and re-issued.	Prepared.	Total output.	Issues.																Balance in hand.
						Punjab.	South Punjab.	North-west Frontier and North Punjab.	United Provinces.	Bengal.	Eastern Bengal, and Assam.	Central Provinces.	Madras.	Bombay.	Sind, Baluchistan and Rajputana.	Burma.	Native States.	Military Department.	Foreign countries.	Used in experiments at the Laboratory.	Total issue.	
1	Rinderpest	92,071	30,867	545,974	668,912	24,000	47,035	67,916	151,805*	46,100	86,000	23,833	92,063 includes 68 doses to Coorg.	5,250	3,200	10,000	41,937	3,057	11,300	13,823	627,349	41,563
2	Anthrax	4,233	950	29,786	34,969	...	...	...	...	500	16,070	20	...	...	...	...	200	13,200	...	943	30,933	4,036
3	Hæmorrhagic Septicæmia ...	15,453†	...	5,140 Vaccine.	5,140	300	300	300	2,200	...	...	...	...	...	...	...	200	...	...	200	3,500	
4	Charbon Symptomatique ...	11,300†	...	1,860 Pillules.	1,860	...	...	...	...	500	100	...	...	...	500	...	210	...	...	...	1,310	550
5	Mallein	3,166	...	9,238	12,404	84	...	504	106	900	...	...	...	50	3	24	250	6,333	...	798‡	9,052	3,352
6	Tuberculin	3	...	306	309	6 To Mr. Leese, at Mohund.	...	...	...	...	...	24	...	...	...	...	...	114	...	...	144	165
	Total ...	126,226	31 817	592,304	723,594	24,390	47,335	68,720	154,111	48,000	102,720	23,877	92,063	5,300	3,703	10,024	42,827	22,704	11.300	15,764	672,288	51,306

†Discarded.

* 2,650 doses to Patwa Dangar.

‡ Includes 760 doses discarded.

235. *Research.*—In accordance with the pressing recommendations of the Advisory Committee of the Royal Society every effort has been made to relieve the Imperial Bacteriologist from all unnecessary work in connection with the preparation of sera, etc. By reorganising and adding to the staff he has been so far relieved of executive work in this direction that he has placed on record his acknowledgment that he can now devote the greater portion of his time to research work. Indeed it has been possible for him to spend the whole of the winter from November to March at the Branch laboratory at Bareilly, leaving the work at Muktesar under the control of the Assistant Bacteriologist. The difficulties in the way of preparing serum at Muktesar are very great and it scarcely seems fair to throw such heavy responsibility on the shoulders of a junior officer, however good he may be, and I am not very well satisfied with the arrangement; however, we shall see how it works. The research work of the year has been dealt with in detail in several papers which have been forwarded for publication in the form of a Memoir.

236. The programme of research included the following subjects :—

I.—Anthrax.

II.—Hæmorrhagic Septicæmia.

III.—Trypanosomiasis.

The most important results arrived have been :—

237. *Surra.*—An epoch making advance is recorded in the drug treatment of this previously absolutely fatal disease in equines. Captain Holmes is to be congratulated on the successful adaptation of Laveran and Thiroux's method, so successfully applied to the treatment of other forms of trypanosomiasis by Thiroux and Teppas. This method consists in the use of Atoxyl and Orpiment and Orpiment alone, and Captain Holmes has also used a combination of Atoxyl, Sodium Arsenite and Orpiment as well as Atoxyl and Arsenious Acid. There are at present under observation about 25 horses, ponies and mules treated by these drugs which have remained free from trypanosomiasis for periods varying from six to twelve months after cessation of treatment. None has shown a return of Trypanosomes in the blood. Many of the animals were in an advanced stage of the disease before treatment was commenced. The results of the observations on this treatment justify the conclusion that a complete cure has been effected and not merely a temporary tolerance of the parasites. The treatment is simple, inexpensive and of short duration (3 weeks). The animal rapidly regains condition and can be put to work shortly after the course of treatment has been completed.

238. *Hæmorrhagic Septicæmia.*—The preparation of a dead vaccine which it is claimed gives immunity for a period of two to three months and of an Anti-serum which protects for about six weeks.

239. *Charbon Symptomatique.*—The preparation of a single vaccine in pillule form which it is claimed gives an active and durable immunity without risk of inoculation fatalities and the designing of a special injector for use with the pillules.

240. *Rinderpest.*—The results of a number of experiments have established definitely, that immunity results from (I) Single and increased doses of serum alone, (II) serum and virus, (III) serum and contact with infected animals. They further prove the very great value of the Anti-Rinderpest serum and the method of prophylactic inoculations which have for some years been carried out by the Civil Veterinary Department. The Imperial Bacteriologist states that the protection afforded by the use of serum alone is of comparatively short duration, but that when animals so treated are exposed to natural conditions of infection, as occurs in an out break, they contract a mild form of the disease without necessarily evincing any clinical symptoms and thus acquire an active and durable immunity against further attacks.

241. *Anthrax.*—The investigation of methods of immunising against this disease is still incomplete and is being carried out.

242. *Strangles.*—Experiments are being made in the preparation of an anti-serum and vaccine.

243. *Piroplasmosis.*—Various methods of treating Canine piroplasmosis are being tried.

244. *Tetanus.*—New methods of preparing an anti-toxin or vaccine are being investigated.

245. *Forests.*—A large quantity of fuel and charcoal was obtained from a distance of 3 to 4 miles.

246. The Nursery at Ritani was extended and a large number of Pine and Deodar seeds were sown and grown-up trees replanted. To fill up blanks and to replace inferior species, Kail (*Pinus excelsa*) is being tried as an experimental measure. About 1,300 Deodar and Walnut seedlings were planted in different places, but a great number of the former species died.

247. *Bareilly Branch Laboratory.*—Work was conducted at Kargaina throughout the winter months. Twenty-six Veterinary Assistants received instruction. Unfortunately, as in previous years, loss of time and animals occurred from infection spreading among cattle under experiment and gave further proof of the necessity of extending the Depôt. Captain Holmes wishes to keep on record the utility of the branch Laboratory. Since its establishment in 1902, many of the most important observations regarding Rinderpest serum, Dourine, Surra and Epizootic Lymphangitis have been carried out there. Each year the scope of work is increasing and the convenience of the experimental station in the plains is more appreciated.

248. Captain Holmes acknowledges the consistent and excellent work performed by the whole staff throughout the year. He has worked hard and is deserving of credit for the results achieved.

Government Cattle Farm, Hissar.

249. The following officers were in charge of the Farm during the year: Mr. C. W. Wilson until he was transferred to the United Provinces of Agra and Oudh in June 1908; Mr. E. Burke, Deputy Superintendent until the return of the regular Superintendent, Major Farmer, from furlough in Europe in November 1908.

250. This is the tenth year the farm has been under the management of this Department, and it is satisfactory to be able to state that the work continues to make good progress. This may be attributed to continuity of an intelligent policy and to the energy of the officers entrusted with the work of carrying it out. Not only have there been no marked deviations from the policy laid down but we have been lucky enough to retain the services of the same officer as Superintendent for a number of years, so that he has gained experience year by year.

251. The system continues to give very good results, there is a marked improvement all round both in the property and in the stock and our position annually becomes stronger.

252. The same rigorous weeding of stock is being carried out so that it can now safely be said that the herd is far and away the finest in India. Animals not up to our standard are readily bought by Zamindars and others interested in breeding and purchasers from Foreign countries readily take our rejections at a very good price.

253. Every branch of breeding has been very successful during the year. The percentage of calves dropped has been high as has that of mules, whilst donkey and sheep breeding are also in a flourishing condition.

254. Every endeavour has been made to improve the property by making pakka roads cleaning and levelling fields and tree-planting; a pakka road has been made through the Mundiawala block and another to the Chowni stock yards whilst the roads and fields have been raised and levelled in the latter. All masonry outlets of water-courses have been put in order.

255. The important question of tree-planting has received as much attention as possible. Nurseries have been established in the Mundiawala, Chowni and Sully blocks and over 700 young trees have been planted along the roads and water-courses. It is hoped that during the coming year 1,000 more may be transplanted.

256. Better accommodation is being provided for the sheep by utilizing some old disused stock yards, fencing off runs and putting them in order.

257. The Dutch Barns which were useless at Sully have been moved to the Home Farm and used to roof over the Machinery so protecting it from the weather.

258. Thanks to the favourable rains, there was good grazing in the *bir* and the stock remained in excellent condition during the year. The barani crops were also very good. It would have been easy enough to collect a lakh of maunds of first class reserve hay if circumstances had allowed of this being done. Unfortunately however the good rains did not prove to be an unmixed blessing. Fever was exceedingly rife amongst the people, the farmers' crops were excellent and labor already very scarce, commanded very high wages, as much as a rupee a day and two meals being paid by ordinary farmers during the harvest. Instead therefore of being able to take on extra labour from outside nearly half our ploughmen and gwalas absconded and in order to retain the remainder we had to pay batta. We could not, however, obtain sufficient labour at any price as it was not available. We had therefore to content ourselves with making about 30,000 maunds of good hay in addition to getting in our cultivated crops. Mr. Burke, who was in charge at this time, worked exceedingly hard and the results are due to his energy.

259. A good deal of damage was caused to the *bir* by fires due to sparks from passing engines. Several occurred during the year, one destroying over three miles of good grazing and a stack of hay, whilst considerable difficulty was experienced in preventing further loss. These fires are a source of constant anxiety and representations have been made to Government with a view to having spark arrestors placed on the engines. Nine stacks of old hay, in which but little nourishment remains, have been struck off and will be used as bedding grass.

260. During the earlier months of the year a good deal of loss was caused by Charbon Symptomatique in the young stock and it was eventually decided to inoculate all the young animals against this disease. A single vaccine, Blacklegoids, was selected for the purpose and to Mr. Burke fell the unenviable task of carrying out the inoculation: considering that the cattle are practically wild it is very creditable to him that he carried out the work with only one casualty. The results have been satisfactory, only one death having so far occurred from the disease since the inoculation was done last August. All calves are now inoculated against Blackleg when they are branded and no deaths have occurred.

261. One small outbreak of Hæmorrhagic Septicæmia occurred but was stamped out with the loss of only 41 animals.

262. We were unfortunate enough to get an outbreak of contagious Pneumonia amongst the donkey breeding stock which was promptly dealt with by segregation but we lost 13 donkeys from the disease before it could be got under.

263. Foot and Mouth disease also gave a certain amount of trouble but did not cause any mortality.

264. Open as the Farm is to the attacks of contagious disease, constant watchfulness is necessary to prevent an epidemic by adopting prompt measures

to prevent spread and the Veterinary establishment is to be congratulated on their success in this direction.

265. *Breeding herd—Herd bulls.*—The number of herd bulls at the beginning of the year (Table XVI) was 22. One was added from the male stock, 1 was sold as useless and two were castrated as their stock was not up to the standard. We are still not well off for bulls but are doing what is possible to give the most promising male stock a chance. The selection of bulls for a breeding herd like this is a momentuous matter and the very greatest care is exercised in the selection.

266. *Cows.*—There were 1,097 cows present at the beginning of the year and 222 farm bred heifers were transferred to the herds. There were 38 deaths, 80 were cast and sold and 2 destroyed, leaving a balance of 1,199 present at the end of the year. Sanction has been accorded to an increase in the number of cows to 1,500 which the farm can in present circumstances easily carry. I find on Major Farmer's return from furlough that herd books had been maintained at the Farm until he left, but that owing to some misapprehension they were not forthcoming last year, when required by me. They are now being maintained.

267. *Male produce.*—There were 900 male produce at the beginning of the year. 406 were born and 2 purchased; of these 95 died, 2 were destroyed, 64 were sold as unfit, and 276 transferred, leaving a balance of 871 at the end of the year.

268. *Female produce.*—The number at the beginning of the year was 699 and there were 381 births, against which were 64 deaths, 1 destroyed, 161 sold as unfit and 222 transferred to the breeding herd, leaving a balance of 632 at the end of the year. It is satisfactory to note that the rejected female stock is keenly sought after by breeders and that although not good enough for our herds they are better than the outside cattle. The distribution of this stock to the districts has a good effect on cattle breeding in the neighbourhood.

269. *Calves.*—The number of calves born shows a marked increase over last year—787 against 577 last year; of these 406 were males and 381 females.

270. *Supernumerary bulls.*—Eighty-one were sold to Districts and were the best lot so far issued. The rate at which they are sold to districts is a nominal one and better prices could easily be realized for them.

271. *Cultivation bullocks.*—There were 309 at the beginning of the year, 8 were purchased and 26 transferred; of these 12 died, 20 were destroyed as worn out, 35 were sold and 61 transferred to Ordnance leaving a balance of 215. Young farm bred bullocks are now broken and used, and passed on when old enough.

272. *Ordnance Bullocks.*—One hundred and twenty-five bullocks were supplied for Siege train purposes at Rs. 150 each, this is still far short of the authorised number but it is hoped that 180 or more may be issued next year.

273. *Mules.*—As stated last year we have great difficulties in purchasing young mules likely to become fit for ordnance purposes in the open market. We have, late in the year, had several of the Army Remount Department markets thrown open to us. Our purchases were confined practically to the fairs open to us last year and it was found possible to buy only 25 animals. Endeavours will be made to obtain more now that better markets have been opened. The mules purchased in the market are not so good as those bred on the farm.

274. The result of the mule operations is not at all satisfactory at present, as our numbers are steadily decreasing. Last year there was a fall from 226 to 137 and this year a further drop to 107 has taken place, as we only obtained 25 by purchase and 22 by birth, whilst 30 were issued to Ordnance, 28 to Transport, 3 died, 15 were cast and sold and 1 was destroyed.

275. *Donkey Stallions.*—There were 12 present during the year, of these 7 were Catalans received in India too young to issue. The remaining 5 are used for mule and donkey breeding. The Catalans have now been issued to the districts.

276. *Donkey mares.*—There were 85 present at the close of last year and 10 fillies were transferred. Of these 3 died, 1 was destroyed, and 3 were sold as worn out, leaving a balance of 88 at the end of the year. The quality of the

mares is steadily improving owing to farm bred fillies being added. Sanction has been received to gradually increase the number of mares to 100 by the addition of farm bred fillies. There were 34 births during the year, 17 colts and 17 fillies, a very fair percentage. The system of turning loose a jack with a number of mares commenced in Colonel Morgan's time is still adopted with good results.

277. *Donkey Colts.*—There were 58 present at the beginning of the year and 17 were born. Of these 4 died, 1 was destroyed and 15 were issued as Jacks to the Army Remount Department and District Boards. No purchases were made.

278. *Donkey fillies.*—There were 39 at the end of the year and 17 were born. Of these 2 died, 1 was cast and 10 were transferred to donkey mares, leaving a balance of 43 at the end of the year. The donkey breeding operations continue to be very successful and the stock is yearly improving.

279. *Pony mares for mule breeding.*—Thirty-eight were present at the beginning of the year and 1 died, leaving 37 at the end. The results have been very much better this year, 22 births being recorded, or 59·4 per cent. If we could manage to maintain this percentage of foalings it would be well worth our while to increase our pony mare stock. I am inclined to do so next year, but shall wait to see what the prospects are before doing so.

280. *Sheep breeding.*—The total number of sheep present last year was 238 ewes and 248 lambs. 195 lambs were born, 117 died, 2 were destroyed and 90 were sold, leaving a balance of 333 ewes and 158 lambs at the end of the year. Sheep breeding, with a view to improving the yield and quality of the wool, is being carried out and the operations so far promise very well indeed. The ewes are divided into four flocks, two of which are being graded up to the Merino. We have one flock with the Dumba and another with the Bikanir Leicester as well as a small flock of pure Merinos. The experiments so far made prove that ordinary wool-bearing sheep pay very well, that the Dumba cross improves the size and shape of the Bikanir sheep and makes very good mutton as does also the Bikanir Leicester. There is already a very considerable improvement in the yield and quality of the wool in the Merino cross and this will doubtless improve when the flock is graded up closer to the Merino. The Merino flock is doing very well indeed so far, and permission has been obtained to add 20 more ewes and 4 more flock rams with a view to supplying some of the requirements in the districts of the Punjab Himalayas. The Merino wool is of fine grade but very greasy and loses much in scouring. Local purchasers at present only bid Rs. 10-8-0 a maund for Merino wool, whilst ordinary Country wool fetches Rs. 24 a maund: when it is considered, however, that the yield from the former is 8 times as great as from a country sheep it will be seen that it is infinitely more profitable. The amount of wool sold during the year was 10 maunds, 24 seers and the price obtained was Rs. 268-14-6.

281. The accommodation for sheep is being much improved, old stockyards being used for the purpose.

282. *Cultivation.*—The cultivation operations on the Farm have been very greatly handicapped owing, in the autumn of last year, to severe fever and to shortage of labour. The splendid rains which fell were not therefore an unmixed blessing. The crops in the neighbourhood were very good and labor being so scarce farmers were paying very high wages. In these circumstances we naturally suffered considerably, nearly half our establishment absconding and the work being correspondingly hampered. It became obvious that if we did not offer some inducement to our men to stop we should lose them all. This was especially annoying as we had a very large area under a very good crop of Jowar and any amount of hay, if we could only save it. Mr. Burke had a very trying time. The crop from the cultivated land was eventually got in. But our farm operations suffered. Notwithstanding this, a good area was prepared for sowing. Major Farmer has shown great energy since his return, especial attention being given to the

cultivation. The difficulties are very great, and the area dealt with, large. The water supply is uncertain, the surrounding land full of weeds, labour is scarce and wages are high. The heavy rains brought down a good many of our boundary walls which cost a good deal to repair. Eight miles of the Sully minor had to be practically redug, as it had completely silted up and the banks had been weakened by heavy rains and damaged by pig.

283. *Machinery.*—This is properly kept and in good order and measures have been taken to protect all the steam driven machinery from the weather. All implements when out of use are repaired and painted to preserve them.

284. *Buildings.*—The repairing of walls, feeding troughs and the thatching of several of the Farm buildings has been carried out; a pucca building is being made near the bullock sheds at Mundiawala for the housing and repairing of machinery and implements. The old tumble-down bhoosa sheds at the Home Farm have had good new roofs put on to them. A scheme for the enlargement of the grain godown is sanctioned. We are erecting a new *Post Mortem* house in place of the present very objectionable building. Major Farmer is preparing a much needed drainage scheme to carry off the flood water which lodges in the Home Farm during the rains. It is proposed to take the water off into the Choupalia Tank which is nearly a mile away from any buildings. All these changes have to be carried out gradually and economically and much energy is expended on them.

285. Table XVIII shows the expenditure on the Farm to have been Rs. 1,08,688, the receipts Rs. 93,907 whilst the valuation of the stock, etc., is Rs. 3,41,655 as against an expenditure of Rs. 1,13,321, receipts Rs. 74,058 and valuation of stock Rs. 3,07,879, last year. It will thus be seen that there is slightly less expenditure, an increase of nearly Rs. 20,000 in receipts and the value of the stock has risen over Rs. 33,000. This I think may be considered to be very satisfactory.

286. These results are due to the energy of the staff employed during the year. Mr. Burke worked exceedingly hard and ably during a very trying time and Major Farmer since his return has brought his great energy and experience to bear on the work. Lieutenant Morris has also worked well and energetically during the year. Major Farmer brings to notice the good work done by the staff.

PART C.—GENERAL.

Expenditure of the Department.

287. Table XIX has been omitted from this report as the information regarding the expenditure of the Department has not been received from the Accounts Officers. When necessary particulars come to hand Table XIX will be furnished as an addendum.

General Remarks.

288. I am glad to be able to report substantial progress in nearly every Department of our work, which continues to increase out of all proportion to the staff available to cope with it. The Imperial staff is now generally overworked and the limit has been reached. Practically all our institutions and Officers are working at their full capacity, and some relief must be given if we are to progress.

289. If we can obtain no more Imperial Officers at present, it seems imperative that we should provide a sufficiently well trained body of men capable of occupying the position of Deputy Superintendents and of taking charge of workable areas. They must have a thorough veterinary training and be capable of dealing with epidemics in the field and of directing the operations of the Veterinary Assistants under them. It will not be possible to train such men properly unless we are prepared to establish and equip an Imperial Veterinary College, and to provide a proper staff of Teachers for the purpose. The time seems to have come to adopt the suggestion of the Government of India made in their review on the Administration Report of 1906-7. The matter is receiving attention.

290. The increasing demands on the College laboratories for teaching purposes and diagnostic work point to the necessity of increasing the number of Pathologists in the Colleges. This recommendation of the Advisory Committee I should be very glad indeed to carry out, but we have no Officers available for the purpose. Men are badly wanted in Bombay and Madras.

291. The subordinate Department is reported to have generally worked very well during the year.

292. Improvement is noticeable in the important duty of checking inoculation work, but the staff employed is very small and much remains to be done in this direction.

293. An important advance has been made by the Government of India having taken over the Journal of Tropical Veterinary Science as a Departmental publication. Sanction has also been given to the publication of two Memoirs in addition to that containing the research work carried out by the Imperial Bacteriologist.

294. I welcome the revival of the Indian Veterinary Journal (in Urdu) which has been produced by Captain Dawson in a quarterly form and is a very useful publication for the Urdu-speaking Veterinary Assistants, and I consider that the author deserves great credit for his enterprise.

295. I note that pamphlets on various subjects have been issued in certain Provinces with a view to instructing the natives. I may say that my own long experience of the country has not been generally favourable to this method of endeavouring to get at the people, and I think that, as a rule, it is a waste of time and money and I am not impressed with its importance or usefulness. There are many reasons which militate against its success.

296. Reports on the breeds of cattle have been prepared in Madras and the Central Provinces, and are being published. I have also reports on the cattle of Mysore and of Rajputana which it is proposed to publish when funds are available.

297. The collection of biting flies and ticks, which is such a very important matter, is being carried out by this Department, the insects, as they are obtained, being forwarded to the Imperial Entomologist at Pusa. I understand that a great number of flies have been collected in various Provinces but we have so far received no information whatever regarding them. The present arrangement is not by any means a good one. The intimate relation which is recognised as existing between certain insects and the propagation of diseases in animals, is well recognised. We want work done in this direction, but the existing staff at Pusa already have their hands full. We want the flies named, classified and described with life histories so far as possible. We also require collections of named specimens in all our teaching institutions. I am hoping that some progress may be made in this direction in the near future and that the scientific results, including all observations and experiments, may be published from time to time in our Journal. The importance of this subject may be gathered from the fact that the Earl of Crewe has appointed a Scientific Committee of all the most eminent Entomologists in England, to arrange for an enquiry into it in Africa. I think it is time that the world knew that something is being done in this direction in India.

298. I have nothing but praise for the work done by the Imperial Veterinary staff during the year, and I think that they have reason to be satisfied with the results of their labours.

H. T. PEASE, COLONEL,

Inspector General

Civil Veterinary Department.

SIMLA;

15th October 1909.

TABLE I.

Showing the main results of Veterinary Colleges and Schools during 1908-09.

Veterinary Colleges and Schools.	Name of course of instruction if more than one course followed.	Number of students. Admitted during the year. Scholarship-holders.	Number of students. Admitted during the year. Others.	Number of students. Passed final examination during the year.	Number of students. Failed to pass final examination.	Number of students. Remaining under instruction at end of year. In ordinary course.	Number of students. Remaining under instruction at end of year. Instruction prolonged by reason of failure to pass.	Students admitted during the year, classed by educational qualifications. Matriculated with higher qualifications.	Students admitted during the year, classed by educational qualifications. Knowing some English, but not matriculated.	Students admitted during the year, classed by educational qualifications. Knowing no English or very little English.	Receipts. From fees.	Receipts. From other sources.	Receipts. Total.	Expenditure. Salaries of Instructing Staff.	Expenditure. Other expenses.	Expenditure. Total.	Employment of students who passed out during the three years preceding. Total number passed.	Employment of students who passed out during the three years preceding. In service of Government or Local Bodies.	Employment of students who passed out during the three years preceding. In service of other bodies or institutions.	Employment of students who passed out during the three years preceding. In private practice.	Employment of students who passed out during the three years preceding. Number unemployed.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		No.	No.	No.	No.	No.	No.	No.	No.	No.	Rs. a. p.	Rs.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	No.	No.	No.	No.	No.	
Bombay Veterinary College	...	13	28	17	6	49	19	16	25	...	5,400 0 0	2,500	7,900 0 0	...	...	...	56	(g) 15	22	9	10	(g) 3 are in temporary employment.
Punjab Veterinary College	Diploma or 3 years' course in Urdu.	12	55	69	40	231	(d) 21	10	30	27	8,184 0 0	6,039	14,223 0 0	47,604 0 0	30,285 0 0	77,889 0 0	(e) 153	176	13	...	...	
Bengal	3 years' course in English.	38	16	25	4	75	17	3	51	...	No College-fee is charged for instruction.	Fine of students Rs. 48	48 0 0	38,445 8 3	2,900 6 8	41,345 14 11	78	67	...	5	6	
Madras Veterinary College	...	10	16	24	5	61	5	7	19	.	11,462 12 2	*Nil* ...	11,462 12 2	7,452 2 10	3,410 0 0	10,862 2 10	53	40	9	...	(f) 4	
Burma	Senior A ...	(a)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Senior B ...	(b)	...	25	3	...	3	...	...	...	...	...	...	4,191 0 0	11,438 0 0	15,629 0 0	24	24	...	...	...	
	Junior C ...	(c)	...	...	...	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total ...	...	73	115	160	58	440	65	36	125	27	25,046 12 2	8,539	33,633 12 2	97,692 11 1	48,033 6 8	1,45,726 1 9	404	322	44	14	20	

(a) Left.
(b) 1 died, 1 removed as medically unfit.
(c) 1 died, 1 left, 6 dismissed.
(d) Those who were dismissed from the College after failure are excluded. This includes 8 men who were not allowed to appear in the examination owing to irregular attendance.
(e) 4 are known as dead.
(f) 1 minor zemindar of Sivagiri and 3 died.

TABLE II.

Showing number of Deaths from Contagious Diseases amongst Animals during the year 1908-09.

Province.	Equines.						Bovines.							Others.												Remarks.
	Glanders.	Anthrax.	Surra.	Dourine.	Other contagious diseases.	Total.	Rinderpest.	Foot and mouth disease.	Hæmorrhagic septicæmia.	Black quarter.	Anthrax.	Other contagious diseases.	Total.	Rinderpest.	Foot and mouth.	Hæmorrhagic septicæmia.	Black quarter.	Anthrax.	Other contagious diseases.	Rabies.	Plague.	Distemper.	Surra.	Pleuro-Pneumonia.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
United Provinces	2	...	...	...	(e)5	7	6,662	1,957	626	62	1,015	1.8	10,440	...	...	30	...	...	(f)30	22	...	3	..	...	85	
Punjab	(g)33	5	163	...	23	224	8,739	1,241	20,822	721	688	8,805	41,106	196	589	1,088	117	231	12,560	...	...	...	...	...	14,781	
Sind	...	...	2	...	2	4	1,734	2	8	...	...	9	1,753	1	...	...	...	...	...	54	...	7	3	108	173	
Rajputana	...	...	...	...	...	...	...	9	...	356	...	...	365	...	...	...	...	...	...	4	...	...	...	...	4	
Bengal	(h) 190	8	9	14	112	301	8,490	3,769	1,546	227	365	2,059	16,456	...	...	...	...	...	*40	...	...	21	...	...	61	* Tetanus.
Bombay	27	...	231	...	4	261	4,825	157	2,660	444	238	71	8,395	...	...	...	...	...	...	...	..	...	...	...	...	
Madras	2	(c)18	1	1	47	69	140,666	4,578	...	4,708	12,511	44,988	216,451	...	...	..	...	...	138	15	1	...	...	...	154	
Central Provinces	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	
Burma	...	...	...	...	...	(a)...	13,729	2,800	(b)	(b)2,990	...	...	19,519	...	...	...	...	...	...	...	...	...	..	...	...	
Baluchistan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	(d)903	...	...	...	...	27	930	
North-West Frontier Province and North Punjab.	5	1	11	...	...	17	403	107	422	226	19	1	1,178	1	21	.	...	...	120	...	...	...	...	...	142	
Eastern Bengal and Assam ...	21	36	70	...	102	229	44,126	11,852	8,040	565	2,954	17,939	85,476	...	...	...	...	...	3,878	...	...	...	...	...	3,878	
Total ...	280	68	487	15	295	1,112	238,374	26,472	34,124	10,299	17,790	74,080	401,139	198	610	1,118	117	231	17,669	95	1	31	3	135	20,208	

(a) There is no system of registration in force in Upper Burma. Military Police register 62 deaths, *viz.*, Surra 50, anthrax 12.
(b) These diseases are not differentiated by villagers or headmen, but are considered as different manifestation of anthrax and so are included under this heading.
(c) Includes 2 cases in Madras Veterinary Hospital.
(d) Small Pox 399, Mange 502, Kullag (Local name) 2.
(e) Tetanus.
(f) Fowl cholera 29, Tetanus 1.
(g) The figures for equines relate only to non-selected districts, the Municipality of Lahore, and the Rawalpindi-Kohala Road, except where cases are treated in Veterinary Hospitals and Dispensaries in selected districts.
(h) Not including 132 cases in the Sodepore Pinjrapole.

TABLE III.

Showing results of preventive inoculation during the year 1908 09.

Province.	Name of disease against which inoculation was carried out.	Method of inoculation followed.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
				Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
United Provinces	Rinderpest.	Serum alone.	1,024	...	5,198	2	...	85,867	200	...	63	...	
Punjab			270	...	4,535	...	...	60,258	...	...	613	...	
Sind			(a)	68	68	1	...	1,487	17	...	2	...	(a) One outbreak and 2 recrudescences of rinderpest.
Rajputana			...	...	...	...	...	...	...	...	...	...	
Madras			574	...	18,996	80	...	48,257	2,230	...	64	...	
Bengal			72	...	1,954	...	...	11,659	...	...	115	...	
Bombay			41	...	611	...	...	7,009	...	...	136	...	
Central Provinces			194	...	2,515	...	...	18,056	...	...	5	...	
North-West Frontier Province ...			13	...	217	...	...	4,380	...	...	...	...	
Eastern Bengal and Assam ...			359	...	7,673	121	...	50,194	10	...	444	...	
Burma			35	...	456	...	...	2 336	...	...	161	...	
Total ...	...	...	2,582	...	42,223	204	...	280,503	2,457	...	1,003	...	
United Provinces	Anthrax.	Serum alone.	11	...	59	...	...	953	...	...	2	...	
Eastern Bengal and Assam ...			37	7	320	20	234	7,126	88	8	26	2	
Madras			29	...	456	...	...	2,353	...	...	...	...	
Total ...	...	...	77	7	835	20	234	104 3[illegible]	88	8	28	2	
United Provinces	Hæmorrhagic Septicæmia.	...	49	...	225	...	...	3,854	...	...	35	...	Vaccine.
Punjab			40	...	380	...	...	6,075	...	...	13	...	Serum.
Eastern Bengal and Assam ...			1	...	73	...	...	350	...	...	...	...	
Madras			5	...	47	...	...	477	...	...	...	...	Vaccine.
Total ...	...	...	95	...	725	...	...	10,756	...	...	48	...	
Punjab	Hæm. Sept.	Vaccine.	2	...	...	...	...	130	...	...	...	...	
Punjab	Black quarter.	Vaccine.	16	...	40	...	...	2,606	...	...	1	...	
North-West Frontier Province and North Punjab.	Black-legoid.	Vaccine.	24	...	...	...	...	3,605	...	...	...	...	
Total ...	...	...	42	...	40	...	...	6,341	...	...	1	...	
GRAND TOTAL ...	...	...	2,796	7	43,823	224	234	317,032	2,545	8	1,680	2	

TABLE IV.

Showing the number of animals treated and castrated by Veterinary Assistants on tour during 1908-09.

Province.	Number of villages visited.	Number of Veterinary Assistants employed.	Castrations performed.				Treated for contagious diseases.				Treated for non-contagious diseases.				Total number of cases treated and castrations performed.	Remarks.
			Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
United Provinces	14,778	69	198	87	21	306	112	32,912	986	34,010	6,526	11,859	2,002	20,387	54,703	
Punjab	9,366	113	545	513	95	1,153	399	31,245	2,367	34,011	4 190	9,304	1,492	14,986	50,150	
Sind	90	7	1	...	...	1	...	375	37	412	1, 22	420	479	2,021	2,434	
Rajputana	345	3	..	2	...	2	..	933	...	933	64	223	59	346	1,281	
Bengal	7,947	48	35	34	45	114	93	27,778	199	28,070	8,624	18 846	1,470	28,940	57,124	
Eastern Bengal and Assam	6,382	35	48	166	52	266	670	39,163	643	40,476	4,317	17,328	1,625	23,270	64,012	
Bombay	967	28	...	10	5	15	7	7,465	247	7,719	691	7,180	378	8,249	15,983	
Madras	..	31	42	234	...	306	...	...	...	...	...	...	...	...	306	
Central Provinces	5,537	20	7	17	10	34	18	17,176	1	17,195	816	11,320	258	12,394	29,623	
Burma	17,752	(a)107	...	1	...	1	7	20,566	1	20,574	1,395	32,385	91	33,871	54,446	
North-West Frontier Province	1,216	11	143	123	86	352	105	5,231	388	5,724	1.709	3,223	1,177	6,109	(b)12,185	
Total ...	64 380	472	1,0 9	1,217	314	2,550	1,411	182,844	4,869	189,124	29,454	112,088	,031	150,573	342,247	

(a) Includes two deaths, one drowned and one removed.

(b) In addition to these 3,806 cases were treated by Inspectors and 457 by Assistants in Shan States.

TABLE V.

Showing number of Animals treated at Veterinary Hospitals and Dispensaries during the year 1908-09.

Province.	Number of Veterinary Dispensaries.	Number of Veterinary Assistants employed at Dispensaries.	IN-PATIENTS. Remaining on 1st April.			Admitted during the year.			Total.			Discharged during the year.			Balance on 31st March.			OUT-PATIENTS. Number treated during the year.			Average daily attendance.			Total number of in and out-patients treated during the year.				Receipts.	Expenditure.
			Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovine	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
																												Rs. a. p.	Rs. a. p.
United Provinces ...	33	33	31	7	5	1,519	550	246	1,550	557	251	1,505	548	244	45	9	7	9,120	7,202	5,198	24·9	19·7	14·2	10,670	7,759	5,449	23,878	46,784 0 0	38,958 0 0
Punjab ...	86	86	102	62	28	2,675	1,361	449	2,777	1,423	477	2,728	1,402	461	49	21	16	45,259	72,608	22,424	...	...	...	47,987	74,010	22,885	144,862	1,82,288 0 0	1,61,971 0 0
Sind ...	6	6	13	3	9	447	1,779	203	460	1,782	212	445	1,750	205	15	32	7	3,801	4,204	2,771	...	...	...	4,261	5,986	2,983	13,230	41,028 8 6	24,838 2 11
Rajputana ...	2	2	...	...	...	45	22	38	45	22	38	43	22	37	2	...	1	267	400	517	...	...	...	312	422	555	1,289	8,998 10 3	1,559 10 2
Bengal ...	27	27	(e) 85	(e) 310	(e) 8	1,355	2,991	200	1,440	3,301	208	1,400	3,197	202	40	104	6	11,913	25,989	6,419	6	120	32	13,353	29,290	6,627	49,270	51,913 0 0	37,261 0 0
Eastern Bengal and Assam.	14	14	4	(d) 14	1	102	395	30	106	409	31	99	398	28	7	11	3	3,039	9,443	2,362	...	...	...	3,145	9,852	2,393	15,390	20,622 0 7	18,969 15 8
Bombay ...	27	27	24	36	4	710	959	175	734	995	179	699	953	174	35	42	5	7,802	38,945	7,895	...	...	...	8,536	39,940	8,074	56,550	54,566 5 7	50,136 1 3
Madras ...	16	20	74	56	148	1,314	1,029	997	1,388	1,085	1,145	1,332	1,016	1,115	56	69	31	9,149	16,400	6,067	6·72	8·63	5·53	10,537	17,485	7,212	35,234	48,430 7 6	46,953 15 1
Central Provinces...	49	49	11	5	3	231	340	44	242	345	47	228	328	44	14	17	3	10,867	35,982	9,108	175·67	417·06	137·90	11,109	36,327	9,155	56,591	35,266 11 0	50,729 14 9
Burma ...	104	107	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,763	8,601	375	4·83	23·63	1·02	1,763	8,601	375	(c) 10,739	.....	.....
North-West Frontier Provinces.	(a) 17	(b) 17	22	2	6	1,017	182	148	1,039	184	154	1,013	181	151	26	3	3	7,937	8,461	3,606	...	...	...	8,950	8,642	3,757	21,349	6,210 6 5	6,196 4 8
Total ...	380	388	366	495	212	9,415	9,608	2,530	9,781	10,103	2,742	9,492	9,795	2,660	289	308	82	110,917	228,235	66,742	...	...	...	120,623	238,314	69,465	428,402	4,92,134 1 10	4,57,464 0 6

(a) Includes three reserve Assistants.
(b) Includes four casualties and three at Headquarters.
(c) In addition to these 392 cases were treated by Inspectors and four by Assistants in Shan States.
(d) 18 were erroneously shown last year.
(e) Correct figures shown this year.

TABLE VI.

Abstract showing Receipts and Expenditure of Veterinary Dispensaries during 1908-09.

Province.	Receipts.							Expenditure.						Balance.	Remarks.
	Last year's balance.	By Local Fund grants.	By Government grants.	By Municipal contribution.	By fees.	By other sources.	Total.	Pay.	Travelling allowances.	Medicines, instruments, etc.	Furniture, etc.	Contingencies.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
United Provinces ...	4,954 0 0	35,186 0 0	1,500 0 0	2,721 0 0	1,080 0 0	1,263 0 0	46,704 0 0	23,575 0 0	2,708 0 0	6,837 0 0	571 0 0	5,267 0 0	38,958 0 0	5,755 (b) 0 0	
Punjab ...	...	63,089 0 0	1,05,110 0 0	1,029 0 0	12,444 0 0	616 0 0	1,82,288 0 0	43,382 0 0	2,745 0 0	19,445 0 0	3,895 0 0	92,504 0 0	1,61,971 0 0	...	
Sind ...	16,676 15 11	11,244 0 0	5,517 4 7	3,190 0 0	4,192 6 0	7 14 0	41,028 8 6	14,762 13 7	1,435 7 7	2,075 10 11	105 4 8	6,448 14 2	24,828 2 11	16,200 5 7	
Rajputana ...	1,395 2 5	540 0 0	...	1,670 0 0	535 8 0	767 15 10	4,908 10 3	1,128 1 6	...	180 11 6	9 7 0	241 6 2	1,559 10 2	3,176 (c) 1 5	
Bengal ...	1,808 (d) 0 0	19,990 0 0	5,610 0 0	3,553 0 0	3,127 0 0	17,825 0 0	51,913 0 0	18,309 0 0	3,156 0 0	5,431 0 0	4,943 0 0	5,422 0 0	37,261 0 0	14,652 0 0	
Eastern Bengal and Assam.	1,072 10 10	12,443 11 7	4,852 8 1	1,729 0 0	288 8 11	435 9 0	20,822 0 5	9,101 9 8	2,919 10 9	3,927 2 2	475 11 0	3,165 14 1	19,589 15 8	1,232 0 9	
Bombay ...	35,459 (a) 11 5	30,366 3 0	19,498 7 8	2,576 0 0	3,844 12 1	1,489 14 10	93,235 1 0	35,843 5 4	6,038 13 8	3,396 5 5	1,338 3 9	16,843 7 8	63,460 3 10	29,774 13 2	
Madras ...	...	10,834 0 8	480 0 0	938 14 0	12,441 11 2	1,909 13 4	26,604 7 2	22,963 8 8	609 4 0	3,722 6 4	2,054 0 3	17,504 11 10	46,853 15 1	...	
Central Provinces...	...	19,968 11 8	1,050 0 0	10,881 3 7	871 13 0	2,496 14 9	35,268 11 0	36,545 14 8	7,392 15 10	9,464 2 4	1,346 11 0	5,980 2 11	60,729 14 9	−25,461 3 9	
Burma ...	...	...	...	...	...	...	...	92,350 0 0	29,399 0 0	4,900 0 0	755 0 0	13,724 0 0	1,41,628 0 0	...	
North-West Frontier Province.	...	2,437 0 11	2,482 14 3	1,276 5 6	...	14 1 9	6,210 6 5	3,510 11 9	152 15 11	1,880 5 3	444 14 9	207 5 0	6,196 4 6	...	
Total ...	61,566 8 7	2,06,098 11 10	1,46,101 2 7	29,564 7 1	38,825 11 2	26,826 3 6	5,08,982 12 9	3,01,972 1 2	56,557 3 9	61,259 11 11	15,938 4 5	1,67,308 13 10	6,03,036 3 1	...	

(a) These figures differ from the closing balance as given in the Report for 1907-08 as they have been subsequently corrected.
(b) The difference is the amount of the District Board Budget grant which lapsed at the close of the official year.
(c) Last year's balance not taken into account in Ajmer-Merwara.
(d) Correct figure shown this year.

TABLE VII.

Showing total strength of Subordinate Veterinary Staff employed during the year 1908-09.

Province.	How occupied.	Whether paid from Provincial or Local Funds.	Veterinary Inspectors.	Veterinary Assistants.	Subordinate Teaching Staff.	Remarks.
1	2	3	4	5	6	7
			No.	No.	No.	
United Provinces ...	In Dispensaries ...	Local	...	29	...	
		Provincial ...	...	2	...	
		Private	...	1	...	
		Municipality ...	...	1	...	
	On other work ...	Local	...	46	...	
		Provincial ...	9	6	...	
		Municipality ...	...	2	...	
	In Dispensaries and other work	Local	...	13	...	
Punjab	In Schools and Colleges ...	Provincial ...	...	...	(e) 6	
	In Dispensaries	Do. ...	...	85	...	
	On other work	Do. ...	12	(a) 42	...	(a) 29 Itinerating Veterinary Assistants. 5 Office Veterinary Assistants. 2 Veterinary Assistants on Tonga Line. 6 Reserve Veterinary Assistants.
North-West Frotier Province and North Punjab.	In Hospitals	Do. ...	...	7	...	
	On other work	Do. ...	2	(b) 13	...	
	Vacancies on 31st March 1909	Do. ...	...	6	...	
Burma ...	In Schools and Colleges ...	Do. ...	...	1	1	(b) 11 On itenerating duty. 1 Reserve. 1 Attached to office.
	In Dispensaries ...	Do. ...	...	(c) 48	...	
		Local Funds ...	...	(d) 58	...	
	On other work	Provincial ...	10	...	...	(c) Includes three Reserve Assistants, two at Headquarters and one drowned. (d) Includes two died, one removed.
Central Provinces ...	In Dispensaries ...	Do. ...	...	2	...	
		Foreign service ...	...	1	...	
		Local	...	22	...	
		Foreign State ...	...	1	...	
	On other work ...	Provincial ...	4	5	...	(e) 2 Professors. 1 Assistant Professor. 2 Lecturers. 1 Demonstrator.
		Local	...	20	...	
Berar	In Dispensaries ...	Provincial ...	...	1	...	
		Local	...	21	...	
	On other work ...	Provincial ...	2	...	...	
		Local	...	2	...	
Bombay	In Schools and Colleges ...	Provincial ...	...	...	4	
	In Dispensaries	Provincial and Local	...	3	...	
	On other work	Provincial ...	1		...	
Madras	Itinerating and attending cattle Fairs and Shows.	Do. ...	2	(f) 28	...	(f) Includes 2 Veterinary Assistants who resigned.
	In charge of Hospitals ...	Local Funds and Provincial.	...	13	...	
	Ditto	Raja's	...	(g) 4	...	(g) 4 includes one Veterinary Assistant having no lien on Government service.
	Ditto	Society for the Prevention of cruelty to animals (Bellary).	...	(h) 1	...	(h) Having no lien on Government service.
	In charge of quarantine Depôt	Foreign (Ceylon Government).	...	1	...	
	College work	Provincial ...	...	...	(i) 4	(i) 1 Assistant Principal and 3 lecturers.
Sind	In Schools and Colleges ...	...	...	...	...	
	In Dispensaries	Local Fund ...	...	6	...	
	On other work	Do. ...	...	1	...	
Rajputana	In Dispensaries	Imperial ...	...	2	...	(j) The Veterinary Assistant at Dumka.
	On other work	Local Fund ...	...	1	...	
Baluchistan	On other work	Imperial ...	...	1	...	(k) Includes 2 Veterinary Assistants employed by the Dumraon and Hathwa Raj States.
Eastern Bengal and Assam.	In Hospitals	Local	...	7	...	
	In Dispensaries	Provincial ...	...	2	...	
	Ditto	Local	...	4	...	(l) One Veterinary Assistant employed by the Khurda Government States and 1 by the Government of Angul.
	Itinerating	Do.	...	17	...	
	Inspection	Provincial ...	2	...	...	
	On other work	Do. ...	...	3	...	(m) Includes 2 Assistants employed by the Pirjrapole Societies of Calcutta and Hazaribagh.
Bengal	In Dispensaries ...	Do. ...	...	(j) 1	(n) 6	
		Local	...	(k) 24	...	
	On other work	Provincial ...	6	(l) 2	...	(n) Includes 1 Assistant Principal, and 5 Lecturers. They are all ranked as Deputy Superintendents.
	Ditto	Local	...	(m) 29	...	
	Total ...	...	50	616	21	

TABLE VIII

Return of Stud Bulls for the year 1908-09.

Province.	Property of Government.					Property of Local Boards.					Remarks.
	Number on 1st April 1908.	Obtained during the year.		Casualties during the year.	Balance remaining on 31st March 1909.	Number on 1st April 1908.	Obtained during the year.		Casualties during the year.	Balance remaining on 31st March 1909.	
		Number.	Average price paid.				Number.	Average price paid.			
1	2	3	4	5	6	7	8	9	10	11	12
United Provinces	(c) 9	...	...	3	6	(d) 36	5	51	1	40	
Punjab	...	...	...	...	...	379	117	...	59	437	
Sind	...	...	...	...	...	...	...	...	...	...	
Rajputana	...	...	...	...	...	2	...	...	...	2	
Bengal	...	...	...	...	...	...	...	...	...	...	
Bombay	...	...	...	...	...	10	6	...	...	16	
Madras	19	...	...	1	(b) 18	...	...	...	...	...	
Central Provinces	5	18	...	(a) 16	7	...	...	...	...	...	
Burma	...	...	...	...	...	...	...	...	...	...	
North-West Frontier Province ...	...	...	...	...	...	11	4	...	1	14	
Eastern Bengal and Assam	(e) 3	4	...	...	7	(f) 17	15	...	5	27	
Total ..	36	22	...	20	38	455	147	...	66	536	

(a) 1 lent, 1 died, 6 sold, 8 castrated.
(b) The bulls are posted thus :—
2 in Vizagapatam, 11 in Guntur,
2 at Madras Veterinary College, 1 in Madura and 2 in Tinnevelly district.

(c) 4 were omitted last year.
(d) 5 were omitted last year.
(e) 2 were omitted last year.
(f) 25 were shown as closing balance in last year's report, but the correct number is 17.

TABLE IX.

Showing main results of the working of Provincial Cattle Farms during the year 1908-09.

Provinces.	Name of farm.	Receipts.				Expenditure.						Valuation of stock, grain and fodder remaining at close of year as detailed on reverse.				Remarks.
		Sale of animals.	Sale of Produce.	Other heads.	Total.	Salaries of establishment.	Feed and keep of animals.	Cultivation expenses.	Purchase of animals.	Other heads.	Total.	Cattle.	Grain.	Fodder.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.	Rs.	Rs. A. P.	
Central Provinces	Telin Kheri ...	785 0 0	863 0 0	...	1,648 0 0	890 0 0	5,902 0 0	...	...	385 0 0	7,177 0 0	13,935	2,490 0 0	262	16,627 0 0	
Ditto	Fowar Khera ...	508 8 0	...	...	508 8 0	287 10 3	1,844 11 2	...	236 5 0	475 8 0	2,844 2 5	1,955	669 7 9	354	2,978 7 9	
Bombay (Gujrat Ahmedabad) ...	Northcote Cattle Farm, Chharodi.	2,083 0 0	...	242 8 0	2,325 8 0	3,634 7 8	6,660 0 0	3,044 10 0	...	2,863 2 0	16,202 3 8	16,020	297 5 0	3,600	19,917 5 0	
Bengal	Pusa	817 0 0	...	...	817 0 0	251 0 0	4,805 0 0	...	638 0 0	...	5,694 0 0	3,173	...	...	3,173 0 0	
Ditto	Siripur ...	1,025 0 0	868 0 0	500 0 0	2,393 0 0	793 0 0	12,017 0 0	...	...	1,503 0 0	14,313 0 0	6,200	...	...	6,200 0 0	
Ditto	Kalimpong ...	100 0 0	...	579 0 0	679 0 0	391 0 0	147 0 0	...	60 0 0	81 0 0	679 0 0	558	...	...	558 0 0	
Total ...	.....	5,318 8 0	1,731 0 0	1,321 8 0	8,371 0 0	6,247 1 11	31,375 11 2	3,044 10 0	934 5 0	5,307 10 0	46,909 6 1	41,841	3,396 12 9	4,216	49,453 12 9	

Note.—See reverse for details of stock in hand at close of year.

Valuation Statement of Cattle, Grain and Fodder in hand at close of the year 1908-09.

Number or Quantity. No.	Quantity.	Description.	Rate.	Value.	Remarks.
	Mds.		Rs.	Rs.	
		TELIN KHERI FARM.			
		Cattle.			
*20	...	Bulls	200	4,000	* Including one stud bull.
46	...	Cows	50	2,300	
29	...	Male stock, 2 years' old	150	4,350	
10	...	Ditto 1 year old	100	1,000	
9	...	Ditto calves	75	675	
20	...	Female stock, 2 years' old	40	800	
17	...	Ditto 1 year old	30	510	
15	...	Ditto calves	20	300	
166	...	Total ...	...	13,935	
		Grain and Fodder.			
...	135 Khandi ...	Cotton seed	Rs. 18 per Khandi.	2,430	
...	524,000 Doolas	Hay	2,000 per Rupee	262	
...	...	Kirby, etc.	...	...	
...	...	Total ...	...	2,692	
					Grand Total 16,627.
		POWAR KHERA FARM.			
13	...	Bulls	75	975	
21	...	Cows	30	630	
4	...	Male stock, 2 years' old	50	200	
2	...	Ditto 1 year old	20	40	
4	...	Ditto Calves	10	40	
3	...	Female stock, 2 years' old	15	45	
1	...	Ditto 1 year old	10	10	
3	...	Ditto calves	5	15	
51	...	.....	...	1,955	
...	...	Grain and Fodder	...	...	
...	Mds. Seers.	.....	...	...	
...	324 24	Cotton seeds	Rs. 2-1-0 per md.	669-7-9	
...	247,850 Pullas	Hay	700 Pulas per Rupee.	354-0-0	
		.....	...	1,023-7-9	
		.....	...	...	
		Grand Total ...	...	2,978-7-9	

Valuation Statement of Cattle, Grain and Fodder in hand at close of the year 1908-09—contd.

Number or Quantity. No.	Quantity.	Description.	Rate.	Value.	Remarks.
	Mds.	NORTHCOTE CATTLE FARM, CHHARODI.	Rs.	Rs.	
		Cattle.			
3	...	Bulls	250	750	
1	...	Bull (Dhoradis)	150	150	
1	...	Bull (Mujio)	50	50	
150	...	Cows	50	7,500	
14	...	Heifers, 4 years' old	40	560	
12	...	Do. 3 do.	35	420	
28	...	Do. 2 do.	25	700	
32	...	Do. 1 year old	20	640	
30	...	Female calves	10	300	
6	...	Male stock, 2½ years' old	150	900	
10	..	Do. 1½ do.	70	700	
2	...	Do. 1½ do. castrated ...	70	140	
18	...	Do. 1 year old	50	900	
22	...	Bull calves	30	660	
11	...	Bullocks	150	1,650	
340	...	Total Cattle ...	...	16,020	
		Grain and Fodder.	Rs. A. P.	Rs. A. P.	
...	Mds. 173	Guvar crushed	1 8 0 per maund.	259 8 0	
...	Mds. Srs. 27 20	Oil cake	1 6 0 per maund.	37 13 0	
...	lbs. 600,000	Hay	6 0 0 per 1,000 lbs.	3,600 0 0	
...	-	Total Grain and Fodder ...	...	3,897 5 0	
		GRAND TOTAL ...	...	19,917 5 0	
		PUSA FARM.	Rs.	Rs.	
		Cattle.			
1	...	Bull	100	100	
49	...	Cows	45	2,205	
5	...	Male stock, 2 years' old	45	225	
10	...	Do. 1 year old	22	220	
19	...	Do. calves	12	228	
1	...	Female stock, 2 years' old	20	20	
3	...	Do. 1 year old	13	39	
17	...	Do. calves	8	136	
...	...	He-goats	...	...	
...	...	Castrated male calves	...	...	
...	...	Calves at heel	...	...	
105	...	Total ...	...	3,173	
		Grain and Fodder.			
...	...	Gram	...	...	
...	...	Hay	...	...	
...	...	Kirby, etc.	...	...	
...	...	Total ...	...	...	
		GRAND TOTAL ...	...	3,173	

Valuation Statement of Cattle, Grain and Fodder in hand at close of the year 1908-09—concld.

Number or Quantity.		Description.	Rate.	Value.	Remarks.
No.	Quantity.				
	Mds.	**SIRIPUR FARM.**			
		Cattle.	Rs.	Rs.	
6	...	Bulls	...	650	
42	...	Cows	...	3,150	
4	...	Male stock, 2 years' old	60	240	
12	...	Do. 1 year old	50	600	
...	...	Do. calves	...	...	
5	...	Female stock, 2 years' old	70	350	
11	...	Do. 1 year old	50	550	
...	...	Do. calves	...	...	
33	...	Calves at heel	20	660	
113	...	Total ...	...	6,200	
		Grain and Fodder.			
...	...	Gram	...	...	
...	...	Hay	...	...	
...	...	Kirby, etc.	...	...	
...	...	Total ...	...	...	
		Grand Total ...	...	6,200	
		KALIMPONG.			
		Cattle.	Rs.	Rs.	
...	...	Bulls	...	...	
18	...	Cows	31	558	
...	...	Male stock, 2 years' old	...	...	
...	...	Do. 1 year old	...	...	
...	...	Do. calves	...	...	
...	...	Female stock, 2 years' old	...	...	
...	...	Do. 1 year old	...	...	
...	...	Do. calves	...	...	
18	...	Total ...	...	558	
		Grain and Fodder.			
...	...	Gram	...	...	
...	...	Hay	...	...	
...	...	Kirby, etc.	...	...	
...	...	Total ...	...	...	
		Grand Total ...	...	558	

TABLE X.

Return of Horse, Pony and Donkey Stallions under Local Bodies for the year 1908-09.

Details.	HORSE AND PONY STALLIONS UNDER LOCAL BODIES.													DONKEY STALLIONS UNDER LOCAL BODIES.								
	HORSES.						PONIES.						Total horses and ponies.									
	Arab.	Persian.	Thorough bred, English.	Country-bred.	Australian.	Total.	Arab.	Persian.	Country-bred.	Deli.	Shan.	Total.		Italian.	Cyprian.	Country-bred (Punjabi).	Persian.	Catalonian.	Arab.	American.	Sicilian.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Balance on 1st April 1908	59	...	2	4	1	66	98	...	5	2	1	106	172	11	17	25	2	30	2	2	10	99
Increase ... Purchased in India	3	...	...	...	...	3	9	...	1	...	...	10	13	...	...	(a) 6	...	(b) 7	...	1	...	14
Increase ... Received by transfer	15	...	...	...	...	15	7	...	...	...	...	7	22	...	...	...	...	4	...	...	...	4
TOTAL ...	77	...	2	4	1	84	114	...	6	2	1	123	207	11	17	31	2	41	2	3	10	117
Decrease ... Died	1	...	...	...	...	1	2	...	...	...	...	2	3	1	...	1	...	1	...	...	...	3
Decrease ... Sold	1	...	...	...	1	2	5	...	2	2	...	9	11	4	1	2	2	...	1	1	...	11
Decrease ... Destroyed :	2	...	...	...	...	2	4	...	...	...	...	4	6	...	...	...	...	...	...	...	...	...
Decrease ... Transferred to	15	...	...	...	...	15	6	...	...	...	...	6	21	...	...	...	...	4	...	...	...	4
TOTAL DECREASE ...	19	...	...	...	1	20	17	...	2	2	...	21	41	5	1	3	2	5	1	1	...	18
Balance on 31st March 1909	58	...	2	4	...	64	97	...	4	...	1	102	166	6	16	28	...	36	1	2	10	99
United Provinces	41	...	2	1	...	44	6	...	...	...	...	6	50	...	...	3	...	9	...	2	...	14
Punjab	5	...	...	...	...	5	56	...	3	...	...	59	64	5	14	23	...	21	...	...	7	70
North-West Frontier Province...	8	...	...	...	...	8	10	...	...	...	...	10	18	1	2	2	...	6	1	...	3	15
Bombay	4	...	...	3	...	7	11	...	1	...	...	12	19	...	...	...	...	...	...	...	...	...
Bengal...	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...
Madras...	...	...	...	...	...	...	12	...	...	...	...	12	12	...	...	...	...	...	...	...	...	...
Burma	...	...	...	...	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...
Central Provinces	...	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...
TOTAL ...	58	...	2	4	...	64	97	...	4	...	1	102	166	6	16	28	...	36	1	2	10	...

(a) Purchased in India.
(b) Purchased from Europe, were kept at Hissar.

TABLE XI.

Services and Produce of each class of Horse, Pony, and Donkey Stallions, under Local Bodies during 1908-09.

Horse, Pony or Donkey.	Province.	Stallions on Register on 31st March 1909.	Stallions actually employed at stud.		Number of mares covered.		Average number of mares covered per stallion employed at stud.		Remarks.
			Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	
1	2	3	4	5	6	7	8	9	10
Horse	United Provinces ...	44	36	37	1,838	1,995	51·05	53·9	
	Punjab	5	5	5	272	283	54	56	
	Bombay	7	6·59	5·07	295	220	44·76	43·39	
	North-West Frontier Province.	8	8	8	495	458	61·87	57·25	
	TOTAL ...	64	55·59	55·07	2,900	2,956	52·17	51·86	.....
Pony	United Provinces ...	6	8	9	386	470	48·2	52·2	
	Punjab	59	60	60	3,233	3,176	54	52	
	Bombay	12	11·41	11·17	343	342	30·06	30·61	
	Madras	12	13	13	239	284	17·5	(a) 21	
	North-West Frontier Province.	10	10	10	505	482	50·5	48·2	
	Bengal	1	1	...	...	...	...	...	
	Burma	1	3	4	58	93	19·3	23·2	
	Central Provinces ...	1	1	...	6	...	6	...	
	TOTAL ...	102	107·23	107·17	4,770	4,847	44·48	45·22	.....
Donkey ...	United Provinces ...	14	9	5	412	224	45·3	44·8	
	Punjab	70	70	47	2,846	2,639	41	56	
	North-West Frontier Province.	15	15	10	482	572	32·13	57·2	
	TOTAL ...	99	94	62	3,740	3,435	39·78	55·4	

(a) The stallions at stud are under the Provincial Department of Government.

TABLE XII.

Showing average cost of feed, keep, attendance, etc., of Horse, Pony, and Donkey Stallions during the year 1908-09.

Province.	Horse.		Pony.		Donkey.		Remarks.
	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	
1	2	3	4	5	6	7	8
	Rs. A. P.	Rs A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
United Provinces ...	...	...	...	...	...	...	
Punjab	382 0 0	305 0 0	374 0 0	312 0 0	202 0 0	158 0 0	
Sind	...	...	...	...	...	...	
Rajputana ...	...	...	...	...	...	...	
Bengal ...	...	...	224 4 0	151 8 0	...	...	Hathwa Court of Wards Estates.
Bombay ...	518 0 0	497 0 0	501 0 0	475 0 0	...	...	
Madras ...	...	...	397 9 0	280 10 0	...	...	
Central Provinces ...	...	...	759 9 9	...	...	...	
North-West Frontier Province and North Punjab.	336 5 0	295 3 0	328 11 2	325 12 5	219 12 11	164 (a) 1 3	
Burma	...	...	220 4 4	294 10 6	...	...	
Total ...	...	...	...	...	...	...	

(a) The increase is due to the high prices of grain.

TABLE XIII.

Abstract of particulars regarding Horse Fairs and Shows held in non-selected districts during the year 1908-09.

Province.	Number of Horse Fair and Shows held.	Total number of animals present.		Total number competing for prizes.		Total number of horse stock (not including branded mares) present.		Number of remounts purchased.				Price paid for remounts.			Number of mules purchased.			Price paid for mules by Government.			Total number of animals sold.	Prizes awarded.							Amount sanctioned by Government of India for next year's Fair or Show.	Remarks.
		Year under report.	Previous year.	Year under report.	Previous year.	Belonging to breeders.	Belonging to dealers.	For Remount Deptt.	For native Cavalry.	For Police.	Total.	Highest price.	Lowest price.	Average price.	By Government.	By others.	Total.	Highest price.	Lowest price.	Average price.		From Imperial Funds.	From Provincial Funds.	From Local Funds.	From other sources.	Total.	Amount actually awarded.	No. of medals awarded.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
												Rs.	Rs.	Rs.				Rs.	Rs.	Rs.										
United Provinces	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Punjab	7	3,768	3,397	1,106	1,012	2,734	3	...	...	...	...	...	...	...	...	23	23	...	...	...	76	1,500	...	1,464	20	2,984	2,365	4	...	
Sind	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Rajputana	1	627	1,022	188	428	...	627	...	...	...	...	...	...	...	...	...	...	...	...	...	278	...	...	500	...	500	442	...	...	
Bengal	8	11,657	12,652	211	259	82	2,223	...	...	...	...	...	...	...	...	...	...	...	...	...	6,046	...	150	171	58 199	578	552	1	...	
Bombay	1	464	...	464	...	174	116	...	...	3	3	Rs. 1,000 paid for 3 remounts.			...	...	...	...	...	...	18	1,000	1,500	1,500	...	4,000	2,090	2	...	
North-West Frontier Province and North Punjab.	3	1,061	1,415	898	1,164	757	...	2	...	1	3	...	...	...	...	...	...	...	...	...	8	2,320	...	923	...	3,243	2,290	3	...	
Burma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total ...	20	17,577	18,486	2,867	2,863	3,747	2,969	2	...	4	6	...	...	...	...	23	23	...	...	...	6,426	4,820	1,650	4,558	277	11,305	7,739	10	...	

TABLE XIV.

Abstract of particulars regarding Cattle Fairs and Shows held during the year 1908-09.

Province.	Number of Cattle Fairs and Shows held.	Total number of stock present.							Average price of animals sold.					Amount realized in fees.	Total number of animals that competed for prizes.	Prizes awarded.						Number of medals awarded.	Remarks.
		Bulls.	Bullocks.	Cows.	Young stock.	Buffaloes.	Camels.	Others.	Bulls.	Bullocks.	Cows.	Buffaloes.	Camels.			From Imperial funds.	From Provincial funds.	From Local Funds.	From other sources.	Total.	Amount actually awarded.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
									Rs.	Rs.	Rs.	Rs.	Rs.	Rs. a. p.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		
United Provinces	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Punjab	32	1,328	131,286	(a)	64,255	35,788	8,511	7,789	...	...	...	...	...	89,091 0 0	3,888	...	...	12,002 0 0	669 0 0	12,671 0 0	10,715 0 0	7	
Sind	3	269	253	85	10	14	...	332	...	...	...	...	...	...	928	50 0 0	...	1,570 0 0	...	1,620 0 0	1,202 8 0	...	
Rajputana	1	...	1,731	...	...	...	4,395	...	...	43 0 0	...	...	61	...	52 pairs of Bullocks 45 camels.	...	...	62 0 0	...	62 0 0	62 0 0	...	
Bengal	14	205	105,705	8,423	18,627	16,321	382	15,818	54	44 0 0	22 0 0	35 0 0	58	15,001 0 0	922	...	900 0 0	1,855 0 0	117 0 0	2,872 0 0	1,650 0 0	2	
Bombay	6	1,595	6,674	1,683	724	1,051	...	9,155	...	...	...	...	...	910 10 0	1,710	...	3,500 0 0	700 0 0	942 0 0	5,142 0 0	3,195 0 0	7	
Madras	14	799	64,274	1,003	1,651	1,728	...	1,368	...	...	...	...	...	248 10 6	70,823	...	3,800 0 0	4,166 0 0	7,673 13 6	15,639 13 6	7,109 4 0	24	
Burma	1	15	42	11	14	55	...	57	...	...	...	...	...	...	194	100 0 0	1,245 0 0	...	...	1,345 0 0	1,141 0 0	...	
Central Provinces	10	124	28,438	6,311	4,706	13,456	7	1,671	...	...	...	...	...	6,635 2 3	455	300 0 0	...	1,022 0 0	62 0 0	1,384 0 0	991 0 0	98	
Baluchistan	2	227	143	62	12	6	...	11	...	...	...	...	...	...	450	500 0 0	...	90 0 0	50 0 0	640 0 0	585 0 0	2	
North-West Frontier Province...	4	207	302	218	28	222	42	132	...	...	...	...	...	...	1,100	1,700 0 0	...	675 0 0	52 0 0	2,427 0 0	2,137 0 0	6	
Eastern Bengal and Assam ...	46	1,522	154,830	15,219	6,911	9,413	1,036	1,991	89	162 5 0	73 8 0	147 4 0	125	1,55,305 0 0	296	...	116 0 0	927 0 0	30 0 0	1,073 0 0	803 0 0	...	
Total ...	133	6,291	493,677	33,015	96,938	78,054	14,313	38,324	...	...	...	...	...	2,67,191 6 9	80,915	2,650 0 0	9,561 0 0	23,069 0 0	9,595 13 6	44,875 13 6	29,590 12 0	146	

(a) Cows and young stock together=64,255.

TABLE XV.

Showing main results of the working of the Imperial Bacteriological Laboratory during 1908-09.

	Name of sera or anti-toxin.	QUANTITY OF SERA OR ANTI-TOXIN PREPARED AND ISSUED.						INSTRUCTION IMPARTED.			FINANCIAL RESULTS.										
											RECEIPTS.					EXPENDITURE.					
		Opening balance.	Prepared during the year.	Received back from districts and re-issued.	Total.	Issued during the year.	Stock in hand.	Department or Province.	Vety. Inspectors and Assistants attending class.	Number passed.	Sale of animals.	Sale of sera.	Sale of garden products and revenue from Reserved Forests.	Other miscellaneous receipts.	Total.	Salaries and travelling allowances of officers and subordinate staff.	Feed and keep of animals.	Purchase of animals.	Cost of chemicals and apparatus.	Other miscellaneous expenditure.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		Doses.	Doses.	Doses.	Doses.	Doses.	Doses.				Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Mukteswar Laboratory.	Rinderpest	92,071	5,45,974	30,867	6,68,912	6,27,349	41,563	United Provinces ...	2	2	...	...	...	...	...	...	...	...	...	...	...
	Anthrax	4,233	29,786	950	34,969	30,933	4,036	Punjab	2	2	...	...	...	...	...	...	...	...	...	...	...
	Hæmorrhagic Septicæmia	15,453*	5,140 Vaccine.	...	5,140	3,500	1,640	Central Provinces ...	6	6	...	...	...	...	...	...	...	...	...	...	...
	Charbon Symptomatique	11,300*	1,860 Pillules.	...	1,860	1,310	550	Bengal	23	23	925 5 9	3,064 12 0	1,079 11 0	9 0 0	5,078 12 9	64,123 4 3	49,791 14 4	24,999 6 0	8,500 0 0	18,780 15 2	1,66,145 7 9
	Mallein	3,166	9,238	...	12,404	9,052	3,352	Eastern Bengal and Assam.	10	10	...	...	...	...	...	...	...	...	...	...	...
	Tuberculin	3	306	...	309	144	165	Rajputana ...	1	1	...	...	...	...	...	...	...	...	...	...	...
								Native States ...	2	2	...	...	...	...	...	...	...	...	...	...	...
Bareilly Depot.	.....	...	...	...	...	...	...	United Provinces ...	8	8	...	...	...	...	...	...	...	...	...	...	...
	.....	...	...	...	...	...	...	Punjab	5	5	...	...	...	...	...	...	...	...	...	...	...
	.....	...	...	...	...	...	...	Central Provinces ...	3	3	...	...	...	...	...	...	...	...	...	...	...
	.....	...	...	...	...	...	...	Bengal	1	1	...	...	4 12 0	...	4 12 0	8,550 5 3	2,493 13 11	1,922 12 0	...	...	12,966 15 2
	.....	...	...	...	...	...	...	Eastern Bengal and Assam.	1	1	...	...	...	...	...	...	...	...	...	...	...
	.....	...	...	...	...	...	...	Bombay	7	7	...	...	...	...	...	...	...	...	...	...	...
	.....	...	...	...	...	...	...	Native States ...	1	1	...	...	...	...	...	...	...	...	...	...	...
	TOTAL ...	1,26,228	5,92,304	31,817	7,23,694	6,72,288	51,306	.....	72	72	925 5 9	3,064 12 0	1,084 7 0	9 0 0	5,083 8 9	72,673 9 6	52,285 12 3	26,922 2 0	8,500 0 0	18,780 15 2	1,79,112 6 11

TABLE XVI.

Return of animals for 1908-09.

Details.	Herd bulls.	Supernumerary bulls.	Cows.	Male produce.	Female produce.	Castrated produce.	Ordinance bullocks.	Cultivation bullocks.	Mules.	Pony mares for M. B.	Pony stallions.	Camels.	Donkey stallions.	Donkey colts.	Donkey mares.	Donkey fillies.	Rams.	Ewes.	Male lambs.	Female lambs.	Wethers.	Zebra.	Total.	REMARKS.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1st April 1908 ...	22	...	1,097	900	699	18	...	309	137	38	1	7	(a) 12	58	85	39	4	238	90	158	...	1	3,913	
Increase ... By birth ...	...	...	...	406	381	...	...	...	22	...	...	...	...	17	...	17	...	...	95	100	...	...	1,038	
Increase ... „ purchase ...	...	...	...	2	...	...	...	8	25	...	...	3	...	...	...	...	4	19	...	...	...	...	61	
Increase ... „ transfer ...		152	222	...	...	187	138	26	...	...	...	...	...	...	10	...	...	109	...	...	93	...	938	
Total ...	23	152	1,319	1,308	1,080	205	138	343	184	38	1	10	12	75	95	56	8	366	185	258	93	1	5,950	
Decrease ... Died	...	1	38	95	64	2	...	12	3	1	...	1	...	4	3	2	3	29	39	36	13	...	346	
Decrease ... Destroyed ...	...	...	2	2	1	...	...	20	1	...	...	...	...	1	1	...	...	2	...	...	...	...	30	
Decrease ... Sold	1	81	80	64	161	...	125	35	73	...	...	1	7	15	3	1	...	2	4	4	80	1	738	
Decrease ... Transferred ...	2	64	...	276	222	88	13	61	...	...	...	...	...	...	...	10	...	...	93	109	...	...	938	
Total ...	3	146	120	437	448	90	138	128	77	1	...	2	7	20	7	13	3	33	136	149	93	1	2,052	
Balance ...	20	6	1,199	871	632	115	...	215	107	37	1	8	5	(b) 55	88	43	5	333	49	109	...	...	3,898	
VALUE ...	4,400	1,500	1,07,615	66,540	13,120	10,880	...	21,370	20,105	3,000	166 10 8	788 12 0	2,480	6,060	8,370	2,530	1,220	1,958	62 8 0	224	...	...	2,72,389 14 8	

(a) Five of these were for the Punjab Government.
(b) One at Goona.

TABLE XVII.

HISSAR FARM.

Results of donkey, mule and zebrule-breeding during 1908-09.

—	Stallions on Register at close of year.	Stallions actually employed at stud.		Number of mares covered.		Average of mares covered per stallion employed at stud.		Result of previous year's coverings.		Average result of previous year's coverings per stallion employed at stud.		Remarks.
		Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Number of produce.	Number not held.	Average of produce.	Average of not held.	
1	2	3	4	5	6	7	8	9	10	11	12	13
Donkey-breeding	5	6	6	84	73	16·8	12·16	(a) 37	36	6·16	6·0	(a) 3 were still born.
Mule-breeding	5	5	5	35	38	7	7·6	22	16	4·4	3·2	

TABLE XVIII.

Abstract showing main results of the working of the Hissar Farm during the official year 1908-09.

	Rs.	A.	P.
Receipts paid into Treasury.			
1. Sale of animals (a)	73,233	13	0
2. Sale of produce	16	8	0
3. Other heads	20,657	5	9
TOTAL ...	93,907	10	9
Expenditure.			
1. Salaries and travelling allowances of officers	12,648	1	8
2. Ditto ditto of subordinate staff	30,101	7	4
3. Cultivation expenses	14,698	11	1
4. Feed and keep of animals including reserve fodder Rs. 2,455-9-9 ...	34,814	15	7
5. Purchase of animals	6,756	0	0
6. Other heads	9,669	2	8
TOTAL ...	1,08,688	6	4
Value of animals issued on book credit.			
1. Siege-train bullocks	18,750	0	0
2. Army transport bullocks	...		
3. Bulls	...		
4. Mules and donkeys	20,300	0	0
TOTAL ...	39,050	0	0
Valuation of animals, grain and fodder on hand at end of year.			
1. Valuation of animals as per Table XVI attached	2,72,389	14	8
2. Do. of grain	2,589	12	8
3. Do. of fodder	54,698	6	8
4. Do. Machinery and dead stock articles	11,977	4	11
TOTAL ...	3,41,655	8	6

(a) Includes "Valuation of animals issued on Book credit"

Annual Administration Report

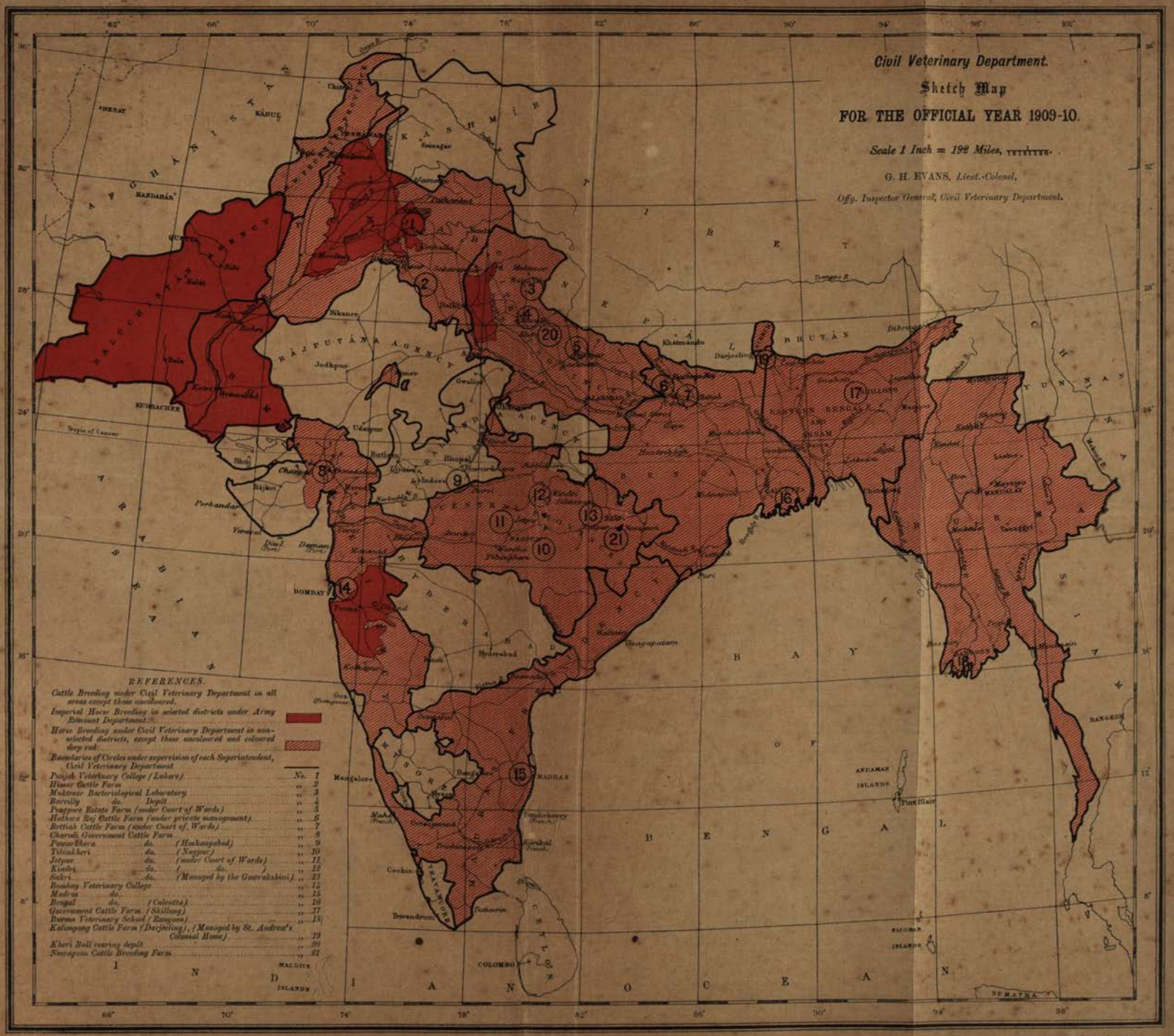
OF THE

Civil Veterinary Department

FOR THE OFFICIAL YEAR

1909-1910

CALCUTTA
SUPERINTENDENT GOVERNMENT PRINTING, INDIA
1910


Civil Veterinary Department.
Sketch Map
FOR THE OFFICIAL YEAR 1909-10.
Scale 1 Inch = 192 Miles.
G. H. EVANS, Lieut.-Colonel,
Offg. Inspector General, Civil Veterinary Department.
REFERENCES.
Cattle Breeding under Civil Veterinary Department in all areas except those uncoloured.
Imperial Horse Breeding in selected districts under Army Remount Department.
Horse Breeding under Civil Veterinary Department in non-selected districts, except those uncoloured and coloured drop red.
Boundaries of Circles under supervision of each Superintendent, Civil Veterinary Department
Punjab Veterinary College (Lahore) No. 1
Hissar Cattle Farm " 2
Muktesar Bacteriological Laboratory " 3
Bareilly do. Depôt " 4
Pusapore Estate Farm (under Court of Wards) " 5
Hathwa Raj Cattle Farm (under private management) " 6
Bettiah Cattle Farm (under Court of Wards) " 7
Charodi Government Cattle Farm " 8
Pawarkhera do. (Hoshangabad) " 9
Tikamkheri do. (Nagpur) " 10
Jetpur do. (under Court of Wards) " 11
Kondri do. (do.) " 12
Saiki do. (Managed by the Gouvernabini) " 13
Bombay Veterinary College " 14
Madras do. " 15
Bengal do. (Calcutta) " 16
Government Cattle Farm (Shillong) " 17
Burma Veterinary School (Rangoon) " 18
Kalimpong Cattle Farm (Darjeeling), (Managed by St. Andrew's Colonial Home) " 19
Kheri Bull rearing depôt " 20
Nowagoon Cattle Breeding Farm " 21
KABUL
KANDAHAR
QUETTA
KUSHIACHEE
Srinagar
Bikaner
Jodhpur
Udaipur
Bhopal
Indore
Gwalior
Kathmandu
Darjeeling
Dibrugarh
Shillong
Kohima
Manipur
Mandalay
Rangoon
Bombay
Poona
Hyderabad
Madras
Mangalore
Cochin
Trivandrum
Pondicherry
Vizagapatam
Puri
Calcutta
Port Blair
ANDAMAN ISLANDS
NICOBAR ISLANDS
COLOMBO
MALDIVE ISLANDS
SUMATRA
BALUCHISTAN
RAJPUTANA AGENCY
CENTRAL INDIA AGENCY
BRITISH BURMA
BENGAL
BAY OF BENGAL
INDIAN OCEAN

Annual Administration Report

OF THE

Civil Veterinary Department

FOR THE OFFICIAL YEAR

1909-1910

CALCUTTA
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1910

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GOVERNMENT OF INDIA.

ANNUAL ADMINISTRATION REPORT

OF THE

CIVIL VETERINARY DEPARTMENT

FOR THE OFFICIAL YEAR

1909-1910.

GENERAL ADMINISTRATION.

Preface.

Colonel H. T. Pease, C.I.E., was in charge of the Department for the whole of the year and some of the important sections embodied in this report were drafted out by him before proceeding on furlough in June 1910.

2. As usual, a coloured Map and the prescribed Tables are appended. It may be mentioned that the colouring on the map has been somewhat altered to indicate more clearly and accurately the horse and cattle breeding districts worked under the administration of the Civil Veterinary Department.

Officers in charge.

3. The table below gives the names of the officers who held the several appointments in the Department during the year under report :—

Appointments.	1st April 1909.	31st March 1910.	REMARKS.
Inspector-General	Colonel H. T. Pease, C.I.E.	Colonel H. T. Pease, C.I.E.	
Imperial Bacteriologist	Captain J. D. E. Holmes, M.A., D.Sc.	Major F. S. H. Baldrey.	
Assistant Bacteriologist	H. E. Cross, Esq.	H. E. Cross, Esq.	
Physiological Chemist	.....	P. Hartley, Esq., B.Sc., D.Sc.	
Superintendent, Government Cattle Farm, Hissar.	Major J. Farmer	Lieutenant-Colonel J. Farmer.	
Superintendent, United Provinces	E. W. Oliver, Esq.	E. W. Oliver, Esq.	Officiating.
2nd Superintendent, United Provinces	C. W. Wilson, Esq.	C. W. Wilson, Esq.	Officiating.
Chief Superintendent, Punjab	Captain G. K. Walker	Major G. K. Walker.	
Superintendent, North-West Frontier Province and North Punjab.	V. deV. H. Woodley, Esq.	V. deV. H. Woodley, Esq.	
Superintendent, South Punjab	G. Taylor, Esq.	G. Taylor, Esq.	
" Sind, Baluchistan and Rajputana.	Major A. S. Trydell	Major A. S. Trydell.	
Principal, Punjab Veterinary College	Major A. Smith	Major A. Smith.	
Professor, Punjab Veterinary College	Captain W. O. Dawson	E. Burke, Esq.	
Professor, Sanitary Science, Punjab Veterinary College.	S. H. Gaiger, Esq.	S. H. Gaiger, Esq.	
Principal, Bombay Veterinary College	M. H. Sowerby, Esq.	M. H. Sowerby, Esq.	Sub. *pro tem.*
Assistant Principal, Bombay Veterinary College.	F. Ware, Esq.	N. D. Dhakmarvala, Esq.	Sub. *pro tem.*
Superintendent, Bombay	K. Hewlett, Esq.	K. Hewlett, Esq.	
Principal, Bengal Veterinary College	Colonel F. Raymond	Colonel F. Raymond.	
Superintendent, Bengal	D. Quinlan, Esq.	D. Quinlan, Esq.	
Superintendent, Eastern Bengal and Assam.	W. Harris, Esq.	W. Harris, Esq.	
Principal, Madras Veterinary College	D. A. D. Aitchison, Esq.	D. A. D. Aitchison, Esq.	
Superintendent, Madras	Lieutenant-Colonel W. D. Gunn	Captain W. O. Dawson.	
" Burma	Lieutenant-Colonel G. H. Evans	Lieutenant-Colonel G. H. Evans.	
2nd Superintendent, Burma	T. Rennie, Esq.	C. J. N. Cameron, Esq.	Officiating.
3rd " "	C. J. N. Cameron, Esq.	.....	
Superintendent, Central Provinces	Major F. S. H. Baldrey	F. Ware, Esq.	Officiating.
Veterinary Officer Investigating Camel Diseases.	A. S. Leese, Esq.	Colonel H. T. Pease, C.I.E.	In charge office.
Attached for training in Punjab	.....	R. Branford, Esq.	
Ditto	.....	J. G. Cattell, Esq.	
Ditto	.....	S. Carless, Esq.	

4. During the year, Mr. G. D. Martin resigned his appointment on termination of his leave in September 1909. Lieutenant-Colonel W. D. Gunn retired in December 1909 on attaining the age of 55 years; and the regrettable death of Lieutenant-Colonel F. Joslen was reported in February 1910.

5. The following officers were on leave in England at the close of the year :—

Lieutenant-Colonel H. M. Maxwell.

Captain J. D. E. Holmes.

Mr. T. Rennie.

Mr. A. S. Leese.

Inspector-General's tour.

6. Colonel H. T. Pease, C.I.E., who held the appointment of Inspector-General, Civil Veterinary Department, throughout the year under report, served as President of the Board of Examiners at the Punjab, Bombay, Madras and Bengal Veterinary Colleges. He attended the Agricultural Conference at Lucknow; inspected the Simla-Kalka dâk line; inspected Veterinary dispensaries at Delhi, Agra, Moradabad, Allahabad, Benares and Jubbulpore. Served as President of the Examination Board for promotion of Captain Dawson to rank of Major. Inspected the Imperial Bacteriological Laboratory at Muktesar and the Branch Depôt at Bareilly. Inspected the Cattle Farm at Hissar. Visited the Chharodi Farm. Accompanied the 2nd Superintendent, United Provinces, on a tour of inspection in portions of the Jhansi district. Visited Bombay to purchase Arab stallions for District Boards, and the Amritsar Fair to purchase cattle for the Hathwa Raj.

7. He travelled 14,157 miles by rail and 259 miles by road.

PART A.—PROVINCIAL ADMINISTRATION.

I.—Veterinary Instruction.

Veterinary Colleges and Schools.

8. Table I shows the results of the work done in Veterinary Colleges and Schools. The arrangements alluded to last year, regarding the fixing of permanent dates of examinations, the formation of permanent Boards and the allotting of specified subjects to each Examiner, were continued during the year under report.

9. *Bengal.*—This year the Bengal Veterinary College takes the lead as regards the percentage of graduates passed by the Board of Examiners. Thirty-four out of 39 students passed the first year's class; 41 out of 48 the second, and 32 out of 37 passed the final year's test; giving a general average of 86·29 per cent. These results were considered to be very good by the Examining Board. Five Army Transport Drivers from Burma were trained as Dressers during the vacation of the College and three men sent by District Boards, received instruction in shoeing in the Nalbund class.

10. The total number of cases treated in the College hospital was 5,680 against 5,144 in the previous year, and the fees realized for treatment, etc., amounted to ₹14,495. It is reported that lack of funds again stopped the progress of the larger works in the College, but in spite of financial difficulties, His Honour the Lieutenant-Governor was able to provide for the students a private hospital, also a football and cricket ground, and the services of a Trainer and Gymnasium Instructor.

11. *Punjab* comes next with 65 passes out of 78 students in the first year's class; 56 out of 71 in the second year, and 62 out of 96 in the final year's test; also six graduated in June 1909, giving a general percentage of 74·69. In addition to the ordinary classes, 48 men from the Transport Department were trained as Dressers, and 11 received a course of instruction in shoeing in the Nalbund class.

12. The teaching staff practically remained unchanged. Mr. E. Burke, Deputy Superintendent, was transferred from Hissar to the post of Professor of Surgery at this College, *vice* Captain Dawson transferred to Madras.

13. The Examiners in their report remarked as follows :—

"We would once more bring to the notice of the Punjab Government that the number of students in each class is too large to permit of satisfactory teaching, and we would strongly recommend that this important matter be given the consideration it requires, as soon as possible."

It is believed that this matter has been represented through the proper channel and is now under the consideration of the Punjab Government.

14. The number of cases treated during the year in the College hospital was 6,303 and the amount realized for treatment, etc., amounted to ₹12,454.

15. Owing to the want of funds no progress has been made with the sanctioned additions to the buildings on the College premises.

16. *Bombay.*—Mr. Sowerby acted as Principal of this College up to the beginning of November 1909 when the late Lieutenant-Colonel Joslen returned from leave and took over charge and remained so until the 28th February 1910, the date on which he died from injuries received in a carriage accident. Mr. Sowerby was again placed *sub. pro tem.* in charge and continued to be so until the end of the year under report.

17. The Board of Examiners in their report state :—

"We understand that sanction has been accorded to the provision of anatomical rooms, contagious disease ward, and small laboratory which are urgently needed. Considering the conveniences available for teaching at present, the results of the examinations are satisfactory."

18. Twenty-two out of 31 students passed the first year's test, 29 out of 37 the second, and 20 out of 31 the final examination, with a general average of 71·71 per cent., which shows a slight improvement on the results of the previous year.

19. Twenty-four men of the Transport Department were put through a course of training as Dressers during the time the College was under vacation, of which 23 were considered competent.

20. The number of cases treated in hospital was 4,277 against 4,064 in the previous year, and the number of operations performed was 333 against 247 in the year 1908-09. The receipts from fees and other sources amounted to ₹8,713.

21. The plans and estimates, duly approved, for the construction of a contagious disease ward and dissection and *post-mortem* rooms on the new premises have been forwarded to the Public Works Department, also those for the building of the Operating Theatre. The library is reported to be thoroughly up-to-date and an increased grant of funds has given facilities for procuring new books, etc.

22. The work at the Patho-Bacteriological Laboratory has greatly increased. A special grant of ₹1,500 has been sanctioned for the purchase of microscopes required for the Pathology and Histology classes, and the providing of necessary furniture and fittings has also been approved.

23. Many new specimens have been added to the collections at the Museum, including three complete skeletons.

24. *Madras.*—Mr. Aitchison held the post of Principal throughout the year and reports that the selection of candidates for enrolment of students was not made till the end of January 1910 when Lieutenant-Colonel W. D. Gunn, who was then Principal, selected 70 candidates, of which only three were matriculates; subsequently, 30 of the most promising students were finally selected by Mr. Aitchison and admitted in Class A.

25. At the annual examination, 20 out of 30 students passed the first year's test, 10 out of 16 the second year, and 12 out of 21 the final year's examination, with a general average of 62·68 per cent. The Board of Examiners remarked :—"The results, excepting in the final year's class, are satisfactory", and suggested a complete theoretical course of training in view

to improving the general practical knowledge of the students. The Principal of the College attributes the fall in the percentage of passes to the "very large number of non-matriculated and badly educated students admitted during the three previous years."

26. The total number of patients treated in the hospital attached to the College was 2,074 and the amount realized in fees, etc., amounted to ₹14,243-2-10, which is very satisfactory. The number of operations performed aggregating 916, *viz.*, 514 in-patients and 402 out-patients.

27. The Museum is reported to have been further equipped by the addition of valuable models and instruments. Land adjoining the College grounds has been acquired for a recreation ground for the students and for building purposes.

28. A Bacteriological Laboratory and Pharmacy are reported to have been sanctioned, which will afford greater facilities for teaching students in contagious diseases of animals.

29. *Burma.*—At the Burma Veterinary School the teaching staff remained the same as during the previous year. Five students passed the final examination, leaving at the end of the year 20 students in the Senior class and 13 in the Junior class.

30. The school has been transferred to Insein. A temporary Laboratory was put in working order at the School and about 2,000 smears were examined, chiefly of diseases suspected of being of a contagious nature. The number of animals treated in the temporary Veterinary hospital amounted to 26 in-patients and 214 out-patients.

31. The pupils attended 3 outbreaks of rinderpest, besides having seen cases of foot and mouth disease, surra and piroplasmosis. They have also had opportunities of preparing and examining microscopical specimens.

32. In view of future expansion, a portion of land, about 9 acres, was acquired.

33. *General.*—The total number of students who presented themselves for examination was 559 against 590 in the previous year. The number who graduated from the Colleges was 137 against 160 last year. From the Punjab College 68 or 64·58 per cent.; Bengal 32 or 86·48 per cent.; Bombay 20 or 64·51 per cent.; and Madras 12 or 57·14 per cent. The number passed out from the Burma Veterinary School was 5.

34. There were 483 students remaining under instruction at the Colleges and 33 in the Burma School at the end of the year against 478 and 27, respectively, in the previous year. The demand for Veterinary Assistants steadily continues and the necessity for the establishment of another Vernacular College is becoming more apparent.

35. The decline in the number of graduates, as compared with the previous year, may be ascribed chiefly to two reasons, (*a*) the classes in the Punjab College being far too large to be well taught, and (*b*) to the admission in the Madras College of a comparatively large number of non-matriculated and badly educated candidates. Both these points have been brought to the notice of the Local Authorities and will, doubtless, receive due consideration.

36. With the staff available, much has been done in the matter of utilising the Laboratories attached to the various Colleges—an increased number of specimens were sent for examination and the practical demonstrations given of contagious animal diseases afforded greater facilities for teaching students in these subjects.

II.—Treatment of Disease.

Contagious disease amongst solipeds, outbreaks, mortality, etc.

37. Table II shows the reported mortality from contagious diseases amongst animals in the several Provinces named. Cases of contagious diseases amongst equines occurring in selected horse-breeding districts are accounted for by the Army Remount Department and are not included in the figures shown in Table II.

38. The total mortality reported, as compared with the previous year, is as follows :—

	1908-09.	1909-10.
Equines	1,112	1,898
Bovines	401,139	287,823
Others	20,208	14,935

39. *Glanders.*—In the Provinces named in Table II, 236 cases of Glanders were reported, against 280 in the previous year. One hundred and sixty, or nearly three-fourths of the total number, were reported from Bengal, of which 87 occurred in Sodepur Pinjrapole, 24 in Hazaribagh Pinjrapole, and the remainder in the districts of Burdwan, Hooghly, Murshidabad, Darjeeling, Jessore and Sambalpur. Serious outbreaks were reported from Burdwan and in the Hooghly districts. Of the horses in the Raj stables at Burdwan 64 were tested and of these 13 proved to be glandered. In the Hooghly district 13 horses were destroyed of 44 tested with Mallein. In the Murshidabad district 24 ponies were seized, of which 14 proved diseased and were destroyed. The cases reported from other districts were but few in number.

40. A matter of great importance in the suppression of Glanders and other scheduled diseases has been the extension of the Glanders and Farcy Act to all districts under the supervision of the Superintendent, Civil Veterinary Department, Bengal. Compensation for the horses destroyed was given to some of the very poor owners, the total amount for the Province being R69.

41. *Bombay.*—There were 6 cases of Glanders reported and destroyed in the City of Bombay against 27 last year.

42. *Punjab.*—Twenty-two cases of Glanders were reported during the year from the Rohtak, Delhi, Lahore, Sialkot, and Rawalpindi districts against 33 in the previous year.

43. *Eastern Bengal and Assam.*—Fourteen cases were reported against 21 last year. Only clinically infected animals were destroyed.

44. *North-West Frontier Province.*—Two cases were diagnosed in Peshawar and destroyed.

45. *United Provinces.*—This disease appeared in the districts of Allahabad, Dehra Dun, Bareilly and Naini Tal, 32 cases were detected and dealt with against 2 last year. Two very serious outbreaks occurred, one on the Kathgodam-Naini Tal Tonga line, the other on the Ranikhet road. Prompt measures were taken to suppress the disease, 164 animals were subjected to the Mallein test, and those found affected were immediately destroyed. The public were warned and necessary precautions taken to prevent the spread of the malady.

46. *Central Provinces.*—Table II has not been furnished with the report of the Superintendent, Civil Veterinary Department, Central Provinces. Last year the appendix was also omitted.

47. *Anthrax.*—Only 51 cases have been reported against 68 in the previous year. Bengal reports that 6 deaths occurred in the Patna district, but in none has the diagnosis been confirmed by bacteriological examination.

48. One case is reported in the Bombay Presidency.

49. *Punjab.*—Seven cases were reported, 1 in Hissar, 3 in Gurgaon and 3 in Rawalpindi. Last year the number reported from the Punjab was five.

50. *Eastern Bengal and Assam.*—Twenty-two (22) deaths were reported against 36 last year. This year diagnosis was confirmed in the districts of Cachar, Sylhet, Goalpara, Kamrup and Sibsagar. The cases at Tippera and Darrang were not reported in time to allow of definite diagnosis being made.

51. *Madras.*—In Table II furnished by Madras, 14 deaths are recorded under the head " Anthrax ". In paragraph 5 of the Superintendent's Report it is stated :—" The total mortality among horses and ponies was 356, of which 186 was due to disease, 31 to snake-bite and 139 to wild animals." These

figures are shown in an appendix which is not a prescribed form and may be detailed as follows :—

Diarrhœa and dysentery	28
Anthrax	14
Other diseases	144
From snake-bite	31
By wild animals	139
TOTAL	356

52. *Rajputana.*—One death from Anthrax is reported to have occurred in Ajmer district.

53. *Dourine.*—It is satisfactory to be able to again report that no cases of Dourine have been reported from any of the horse breeding districts supervised by this Department.

54. *Surra. Bengal.*—No cases were reported during the year.

55. *Bombay.*—The total number of reported cases was 325 against 231 last year. Outbreaks occurred in Bombay, Thana, Kolaba, Kaira, Panch Mahals, Surat, Poona, Ahmedabad and Ahmednagar. In the Thana and Kolaba districts, surra was scheduled under the Glanders and Farcy Act towards the close of the year. Fourteen cases were destroyed under the Act. In addition to the above many cases occurred among horses in some of the Native States of Gujarat.

56. *Punjab.*—Four hundred and fifty-two (452) deaths were reported against 163 last year. Outbreaks occurred in the districts of Kurnal, Lahore, Gurdaspur, Gujranwala, Shahpur and Mianwali. The outbreak at Gurdaspur was visited by the Chief Superintendent while on tour and many cases were diagnosed by him.

57. *Eastern Bengal and Assam.*—This disease is reported to have been confined to 4 districts in which 29 deaths were recorded. Last year the number amounted to 70. The majority of deaths which occurred this year were reported among the ponies on the Shillong-Gauhatti road.

58. Surra has been scheduled under the Glanders and Farcy Act in the districts of Sylhet, Cachar and Kamrup; also in the station of Shillong and on the Shillong-Gauhatti cart road in the district of Khasi and Jaintia hills. This will allow of prompt measures being adopted for the removal of infected animals.

59. *North-West Frontier Province.*—Forty-six (46) cases were reported from the Bannu and Dera Ismail Khan districts and the Tochi Agency where it was very prevalent. Blood-smears were examined microscopically and necessary precautions with regard to disinfection and disposal of carcasses were undertaken.

60. *United Provinces.*—Two hundred and fifty (250) deaths were reported, but the Superintendent states that it is highly probable that many more cases occurred in outlying localities, about which no reports were received. The districts of Bareilly, Dehra Dun and Jalaun are reported to have been most severely affected, while imported isolated cases were detected in Lucknow, Cawnpore and Jhansi. With greater facilities for investigation, facts are gradually coming to light which indicate that surra exists to a far greater extent in the United Provinces than was formerly supposed. With better arrangements for collection of statistics the existence of this and other diseases will be more clearly revealed. Surra has been scheduled under the Glanders and Farcy Act in Bareilly.

61. *Sind.*—Twelve deaths occurred in Karachi and one in Jacobabad district. It is reported that this disease is now being known at various places, both in horses and camels, *viz.*, Zhob, Sibi, Jacobabad, Larkana, Sukker, Hyderabad, Karachi and Merwara.

62. *Rajputana.*—An outbreak among horses was reported from Kekri (Ajmer district) causing 46 deaths. The diagnosis was confirmed by microscopic examination.

63. *Central Provinces.*—Outbreaks were reported from Damoh district, Bhandara City, and amongst the ponies on the Dhamangaon-Darwah dâk line, and also amongst the camels on the Pusad-Wasim line. Diagnosis in each case sent up was confirmed by microscopical examination, and destruction of the affected animals advised.

64. Surra and Epizootic Lymphangitis having been scheduled under the Glanders and Farcy Act within Cantonment limits, will allow of cases being summarily dealt with.

65. *Burma.*—Thirty-one deaths occurred amongst the ponies of the Military Police.

66. *Other contagious diseases. Bengal.*—Two hundred and twenty (220) deaths were reported against 112 last year, but no details are forthcoming.

67. *Bombay.*—Three cases of Epizootic Lymphangitis were reported from Bombay and one from Poona. These were dealt with under the Glanders and Farcy Act.

68. *Punjab.*—Forty-five (45) deaths were recorded under this head, but no details have been furnished.

69. *Eastern Bengal and Assam.*—One hundred and fifteen (115) cases are recorded against 102 last year, but no details have been given.

70. *North-West Frontier Province.*—Under this head one case was reported from Tetanus.

71. *United Provinces.*—Sixty-four (64) cases of Tetanus have been recorded under this head. Other diseases, such as Strangles, Equine Piroplasmosis, Horse pox, Parasitic skin disease, etc., no doubt exist, but no reliable information regarding them is furnished.

72. *Sind.*—Under this head it is reported that one case of Piroplasmosis was identified in a mule at the Karachi Veterinary hospital.

Contagious diseases in bovines, outbreaks, preventive inoculation, mortality, etc.

73. The total number of deaths from contagious diseases among cattle are recorded in Table II. It is satisfactory to note a large decrease, as compared with last year's figures. The aggregate this year amounts to 287,823 against 401,139 in the year 1908-09. The decreases are chiefly under the heads "Rinderpest", "Anthrax", and "Other contagious diseases."

74. *Rinderpest. Bengal.*—This disease was prevalent in most districts of Bengal. Bihar is reported to have had a comparatively clean bill of health. There was a slight increase in the number of reported deaths in this Province as compared with last year's figures; but this is to be expected where more Veterinary Assistants and Inspectors are posted, and prompt attention paid to the reports of outbreaks. A virulent type of the disease appeared in Darjeeling district, not many animals were attacked, but there was a high mortality amongst those affected. At the Senchal Dairy Farm, 29 head of cattle died, and some goats on the Farm were also affected with the disease.

75. *Bombay.*—This disease occurred in 13 districts besides the City of Bombay. There were 1,520 deaths against 4,825 last year. Dharwar is the only district in which the disease assumed serious proportions, causing 605 deaths.

76. *Punjab.*—The death of 18,055 head of cattle is reported against 8,739 last year. The Superintendent states :—"This enormous increase is, in all probability, due to the short supply of serum from the Laboratory, which was discontinued when the disease was very prevalent." The supply of serum was temporarily suspended owing to insufficiency of hill bulls at the Laboratory.

77. *Eastern Bengal and Assam.*—This disease was, more or less, prevalent in all the districts of the Province. It was reported from 25 districts causing the death of 28,860 head of cattle against 44,126 in the previous year. This large decrease is satisfactory. Increases were reported from some of the districts, but the majority show a considerable decrease, especially

in Mymensingh where the mortality was reduced from 1,101 to 658; in Backerganj from 8,132 to 1,345; in Noakhali from 1,077 to 143; and Goalpara from 5,405 to 462.

78. *North-West Frontier Province and North Punjab.*—Rinderpest occurred in the districts of Peshawar, Hazara, Kohat, Dera Ismail Khan and the Kurram Agency, of which Hazara suffered most—1,448 deaths were reported against 403 last year.

79. *United Provinces.*—With the exception of the districts of Etah, Mainpuri, Ballia, Ghazipur and Gorakhpur, rinderpest prevailed throughout the Province—17,071 deaths were reported against 6,662 last year. This year the disease assumed a very virulent form in Cawnpore, Fatehpur, Banda, Hamirpur and Jalaun. Outbreaks were attended to and where the District Board staff was insufficient, Provincial Veterinary Assistants were, when possible, deputed to render help. Inoculations were carried out in 36 districts.

80. *Madras.*—The reported loss from rinderpest this year was 56,900 against 149,666 in the previous year. The decrease is accounted for by the Superintendent as probably due to the more careful recording of mortality. Preventive inoculation against this disease was conducted in almost all the districts of the Presidency.

81. *Central Provinces.*—No figures have been furnished but it is reported that rinderpest has been fairly prevalent in most districts, and that inoculation against the disease was conducted with less opposition than formerly.

82. *In Sind, Baluchistan and Rajputana* reports, beyond repeating the figures shown in Table II, there is nothing worthy of note, except that the Superintendent states that "reports of the death-rate of stock from the districts can hardly be relied upon and are more or less useless."

83. *Burma.*—This year the mortality, as compared with figures of last year, has considerably increased. The totals for the Province show 22,240 deaths from rinderpest against 13,729 in the previous year.

84. *In Lower Burma* the cattle in the Akyab district are reported to have enjoyed greater freedom from this disease than usual, but outbreaks, more or less severe, are reported from Myohaung Township. Outbreaks were also reported from the Tharrawaddy, Thayetmyo, Henzada, Amherst and Toungoo districts.

85. *In Upper Burma* the disease was prevalent throughout the year in Myitkyina district causing the death of 4,358 head of cattle. The introduction of the disease is attributed to the importation of affected Chinese pigs. On each occasion of an outbreak the Superintendent and 2nd Superintendent at once proceeded with a party and carried out serum injection. In the Bhamo district the disease was chiefly confined to the Kachin Hill tracts. In the Yamethin district it was most severe in the Yamethin sub-division.

86. *In the Southern Shan States* rinderpest prevailed for the greater part of the year, though perhaps, in many parts, in a less virulent form. The estimated mortality in these States reached 16,000, and mortality in the States of the Western Sub-division was 10,000.

87. *Foot and mouth disease. Bengal.*—The number of deaths reported is 2,374 against 3,769 in the previous year. It is stated that there was an error in the number of cases reported last year by the Police, and that the attention of the authorities concerned has been drawn to the fact.

88. An outbreak occurred among the Siripur Cattle Farm, but it was quickly suppressed.

89. *Bombay.*—The appearance of this disease is reported in 12 districts as well as in the City of Bombay. Of 5,586 head of cattle attacked 62 deaths occurred against 4,388 attacks and 157 deaths last year.

90. *Punjab.*—Every district in the Province was affected, 3,899 deaths being recorded against 1,241 last year. The increase is ascribed to more reliable information having been furnished under an improved system of collecting statistics.

91. *Eastern Bengal and Assam.*—Deaths reported amount to 7,783 against 11,852 last year. The remarks made in paragraph 120 of last year's Annual Administration Report may be read in this connection as the cause of the high mortality.

92. *North-West Frontier Province and North Punjab.*—All the districts and Agencies were involved. Eighteen thousand one hundred and seventy-one (18,171) cases were reported, of which 113 died against 6,117 attacks and 107 deaths last year.

93. *United Provinces.*—Deaths reported amounted to 3,677 against 1,957 in the previous year. These figures cannot be relied on, as losses from this disease are comparatively small being usually confined to young stock or old and weakly animals. It sweeps over a large extent of country and practically nothing can be done to prevent spread owing to its extremely contagious nature, and the apathy and ignorance of the people who will not realise the utility of segregation and the adoption of simple remedies.

94. *Madras.*—The deaths reported were 3,260 against 4,578 last year. No allusion is made to these figures in the Superintendent's report.

95. *Central Provinces.*—It is reported that this disease has been very prevalent. A few deaths are said to have occurred, but except for the inconvenience caused by the inability of affected cattle to work, the outbreaks were not very serious.

96. *Burma.*—The total deaths under this head amounted to 5,207 against 2,800 last year.

97. *In Lower Burma* the disease was generally prevalent throughout the Pegu, Irrawaddy and Tenasserim divisions.

98. *In Upper Burma* though the disease was prevalent in many districts it was generally in a benign form.

99. *In the Shan States* the disease prevailed but was not of a severe type.

100. *Hæmorrhagic Septicæmia. Bengal.*—Three thousand one hundred and thirty (3,130) deaths occurred this year against 1,546 last year. Heavy mortality is reported from the districts of Jessore, Patna and Saran. In Gaya the number of deaths is reported to be 489.

101. *Bombay.*—This disease is reported to have occurred in 15 districts causing 3,651 deaths against 2,660 last year.

102. *Punjab.*—This disease existed in all the Punjab districts. Lahore and Shahpur suffered most. The total number of deaths in the Province amounted to 18,255 against 20,822 last year.

103. *Eastern Bengal and Assam.*—Reports of the prevalence of this disease were received from 15 districts causing the death of 3,327 head of cattle against 8,040 last year. The heaviest mortality has again been reported from the district of Kamrup.

104. *North-West Frontier Province and North Punjab.*—Outbreaks were reported from Peshawar, Hazara, Kohat, Dera Ismail Khan and the Kurram Agency. One thousand two hundred and twenty-five (1,225) deaths were reported against 422 last year.

105. *United Provinces.*—It is reported that owing to the heavy summer and winter rainfall, the mortality was heavy, *viz.*, 2,839 deaths against 626 last year. Outbreaks were visited and 7,520 head of cattle were treated with successful results by the new vaccine method.

106. *Madras.*—The deaths reported were 6,954, against *nil* last year. The reason why no deaths were recorded last year was not explained in the Provincial report, probably it was due to the staff employed being too small to collect much information as noted in paragraph 117 of last year's Annual Administration Report. It is reported that 797 head of cattle were inoculated.

107. *Central Provinces.*—This disease was frequently reported, but in most cases it had subsided before the arrival of the Veterinary Assistant. In one outbreak the Veterinary Inspector arrived in time to use the protective vaccine with satisfactory results.

108. *Black Quarter. Bengal.*—This disease caused 737 deaths against 227 in the previous year. The disease was confirmed by bacteriological examination of slides.

109. *Bombay.*—It is reported that this disease occurred in 10 districts causing 1,125 deaths against 444 in the previous year.

110. *Punjab.*—The districts mostly affected were Hissar, Rohtak, Shahpur and Attock. The total number of deaths recorded in the whole Province amounted to 1,546 against 721 last year.

111. *Eastern Bengal and Assam.*—This disease was reported from 2 districts and caused 38 deaths against 6 districts and 565 deaths last year.

112. *North-West Frontier Province and North Punjab.*—Black Quarter was reported from Peshawar, Kohat and Hazara districts. One hundred and five deaths were recorded against 226 last year.

113. *United Provinces.*—The number of deaths reported is 679 against 62 last year. The most serious outbreak occurred in the Jhansi district where 536 animals are said to have succumbed. The 2nd Superintendent visited the outbreak and personally conducted inoculations.

114. *Madras.*—Shows 4,404 deaths against 4,708 last year. No other details have been furnished in the Superintendent's report.

115. *Anthrax.* (Bovines). *Bengal.*—The number of deaths reported is 812 against 365 last year. The disease was fairly prevalent throughout the Province as proved by microscopical examination of slides, and a very severe outbreak, with a high mortality, occurred in Terai. On one garden the Manager lost a large number of animals but no particulars were communicated to this Department. Returns of this disease are now submitted monthly to the American Consul-General.

116. *Bombay.*—Five hundred and twenty-three (523) deaths are reported, against 238 last year. It is said that outbreaks occurred in 11 districts, but there is nothing to show that the diagnosis was proved by microscopical examination.

117. *Punjab.*—This disease was reported from 6 districts with 55 deaths against 688 last year. In all cases now where anthrax is reported in the Punjab, blood-smears are sent for verification. This, no doubt, accounts for the decrease in the number of so-called anthrax cases reported in previous years.

118. *Eastern Bengal and Assam.*—One thousand eight hundred and twenty (1,820) deaths are reported against 2,954 last year. The cases from 3 districts were not previously reported during the year, and consequently a definite diagnosis was not made. The heaviest loss has been reported from Sibsagar and Lakhimpur.

119. *North-West Frontier Province and North Punjab.*—One hundred and thirty-eight (138) deaths were reported against 19 last year. The blood-smears submitted from suspected cases were microscopically examined by the Superintendent, who was unable to confirm any case, and who states that "It is certain anthrax is, comparatively speaking, rare in this Province, and is not so widely distributed as was at one time thought."

120. *United Provinces.*—One thousand three hundred and thirty-three (1,333) deaths were reported against 1,015 last year. The Superintendent doubts the accuracy of these figures, as the disease was not proved by microscopical examination of blood-smears. Monthly reports of this disease are now submitted to the American Consul-General.

121. *Madras.*—The number of deaths reported is 11,968 against 12,511 last year. There is nothing in the Superintendent's report to show whether the cases reported were confirmed by microscopical examination.

122. *Central Provinces.*—It is stated that sporadic cases were reported from time to time. Mention is made of an outbreak in which 4 buffaloes were found dead one morning. Poisoning was suspected, but pieces of skin from 2 of these buffaloes having been sent to the Bombay Veterinary College, the Principal reported that a microscopical examination confirmed anthrax.

123. *Burma.*—Under the combined head of "Hæmorrhagic Septicæmia," "Black Quarter" and "Anthrax," 3,119 deaths are recorded against 2,990 last year.

124. *In Lower Burma* it prevailed in the Akyab district. In the Pegu Division it caused very little trouble. In the Irrawaddy Division it was chiefly confined to three Townships. In the Tenasserim Division a few cases were recorded in Thaton and Toungoo districts and 248 deaths in Amherst district. Only a few cases were recorded from Upper Burma.

125. *Other contagious diseases. Bengal.*—Deaths numbered 1,723 against 2,059 in the previous year, but no information regarding the diseases to which the cattle succumbed is available.

126. *Bombay.*—One hundred and thirty-seven (137) deaths are recorded against 71 last year, but no details have been furnished.

127. *Punjab.*—A considerable decrease under this head is shown. This year 358 deaths are recorded against 8,895 last year. The Superintendent states:—"With better climatic conditions, gillar or parasitic disease was much less in evidence."

128. *Eastern Bengal and Assam.*—The number of deaths reported is 8,448 against 17,939 in the previous year. The Superintendent referring to the reduction states:—"Besides indicating that contagious diseases were less prevalent, it may also indicate that the symptoms and names of such diseases are becoming more widely known, with the result that these statistics are becoming more accurate."

129. *North-West Frontier Province and North Punjab.*—Under this head 32 deaths are recorded, which include Mange, Contagious Pleuro-Pneumonia, Cow pox and Liver fluke.

130. *United Provinces.*—Three hundred and eighty-nine (389) deaths were reported against 118 last year. These figures include cases of Piroplasmosis, Pleuro-Pneumonia, Tuberculosis, Contagious abortion, etc.

131. *Madras.*—Under this head 26,587 deaths are recorded against 44,988 last year. The decrease is satisfactory.

132. *Central Provinces.*—Under this head may be recorded the occurrence of Piroplasmosis, Epizootic Abortion and White Scour. The Superintendent also alludes to a disease called "*Bhowra,*" which is stated to be a hydatid disease of the brain, affecting buffaloes and cattle; and it is thought that the intermediate stage of the Tape-worm may be in some of the smaller molluscs which infest stagnant water in tanks, etc. Parasitic diseases are also alluded to and to the supply of certain appliances for the spraying of animals, etc.

133. In Table II will be found the number of cases of contagious disease that occurred among animals other than "Equines" and "Bovines" during the year, aggregating 14,935 against 20,208 in the previous year. No detailed particulars regarding the several diseases have been furnished, but the most noticeable decreases appear under "Black Quarter," "Other contagious diseases" and "Rabies," while those under "Rinderpest," "Anthrax," "Distemper" and "Pleuro-Pneumonia" show an increase. Twenty-nine cases of "Fowl Cholera" are also shown in this year's figures.

134. *Preventive inoculation.*—Table III shows the number of outbreaks which have been dealt with by means of protective inoculation. The subject has been fully reviewed in Part B of this report under the head "Bacteriological Laboratory."

135. *Contagious diseases amongst other animals.*—Mr. Leese has held the appointment of "Officer Investigating Camel Diseases" sanction having been accorded to extension of the appointment for a further period of 5 years from the 13th February 1910. He has submitted detailed reports on his work, which are being published. Unfortunately the proposals for the erection of a small hospital and Laboratory for the study of camel diseases at Sohawa were still under consideration at the end of the year and in consequence work has been much hampered. A great deal of valuable information of a practical nature has, however, been collected in the field.

Camels.

136. The important subject of surra has been further studied, (1) with a view to devising methods of prophylaxis, and (2) to find an effective treatment. In regard to (1), the advice given by Mr. Leese is of a practical nature, founded on the accepted fact that the disease is carried from sick to healthy by the bites of flies. The broad principles involved are the weeding out of surra infected camels and the avoidance of surra zones. The provision of surra free grazing for Silladar Camel Corps is a most important measure and the remarks made by Mr. Leese on this subject deserve very serious consideration, if surra is to be diminished in the Corps.

137. Mr. Leese truly says in regard to prophylaxis, that no excuse need be made for repeating a good deal of what has been said on the subject in previous reports. The most important requirement for prophylaxis is surra free grazing in the monsoon season for Corps Camels, having secured that the mortality would be less and the demand for remounts also. The next requirement is surra free grazing for camel breeding.

138. The summary of the condition of the various cadres in regard to their infection with surra is valuable as an indication of the efficiency of the measures recommended to prevent mortality. It shows that weeding out of surra cases does very greatly reduce the prevalence of the disease in future years. It is a pity therefore that more attention is not in some cases given to the routine examination of camels for this purpose.

139. It has been suggested that working isolation of camels might be practicable in the Punjab, but this is shown to be unworkable owing to lack of space and danger to healthy animals. July, August and September 1909 were spent touring in the grazing grounds with the primary object of definitely ascertaining which were surra free. The mapping out of the surra and surra free zones must necessarily be very slow, as in only three months in the year is this kind of work possible and they are unfortunately the most difficult to travel in. The work involves great exposure in very unhealthy country owing to the fact that it must be carried out during and after the rainy season and in country covered with jungle and reeking with malaria. The good progress which has been made in the work, therefore, is very creditable indeed.

140. In regard to the experimental treatment of surra, considering that no accommodation has been provided for the experimental animals, the progress made is extraordinarily good. Mr. Leese has submitted two reports (which are being separately published) on the subject, giving details of the experiments made with (1) Tartar emetic alone, (2) Tartar emetic and Atoxyl alternately, (3) Tartar emetic alone followed by a short course of mercuric bichloride alone, (4) Orpiment, (5) Antimony sulphide by the mouth, (6) Soamin, (7) White arsenic, (8) Arsenic in powder, (9) Arsenic in solution in various forms as (*a*) Solution of sodium arsenate, (*b*) Liquor arsenicalis, (*c*) Donovans solution, (*d*) Solution of arsenious iodide, (*e*) Solution of sodium arsenite. (10) Methylene blue and mercuric bichloride, (11) Soamin and sodium arsenate, (12) Soamin and antimony tartarate, (13) Atoxyl, soamin and sodium arsenate, (14) Atoxyl, antimony and sodium arsenate. Contrary to what has been found to be the case in the horse, no successful treatment has been yet obtained, but the results of some combinations are somewhat encouraging. It is interesting as well as discouraging to note that camel surra offers a separate problem for solution. The experiments are being continued.

141. The remarks made by Mr. Leese regarding compensation for slaughter of surra camels are worthy of attention. He points out that no loss is involved in the slaughter of a surra camel which is too weak to use under a load or is suffering from coincident unsoundness such as chronic blindness or lameness and that compensation should only be given for the slaughter of a camel in the public interest when it is still capable of ordinary work. With this I agree.

142. Various contagious and other diseases of the camel have also been studied as opportunity occurred, but lack of accommodation proved a serious drawback. It is interesting to find that little evidence now remains to show

that foot and mouth disease occurs in the camel. Jhooling has been found to be contagious. A form of specific peritonitis was met with in the Montgomery district. A separate report is being prepared regarding Filariasis. Various other diseases have been studied and noted on.

143. Three parasites have been added to the check list, *i.e.*, *Thelazia leesei*, a new parasite, causing ophthalmia, *Tænia centripunctata*, common also in the sheep, and *Onchocerca fasciata*, found coiled up in nodules in the subcutaneous tissue. *D. hepaticum* was found in 2 per cent. of the camels examined and the larvæ of *Linguatula tænioides* once in the mesenteric glands.

144. Sanction has now been accorded for the erection of the necessary buildings at Sohawa so that disease may be more thoroughly studied.

145. Mr. Leese has continued to devote himself whole-heartedly to his work in very trying and unhealthy conditions and I consider that he deserves great credit for the progress which he has made during the year.

Other diseases.

146. Table IV gives the number of animals treated and castrated by Veterinary Assistants on tour. The number of Veterinary Assistants employed has increased from 472 (*vide* last year's report) to 517. With the exception of Sind, Rajputana and Baluchistan, the number of Veterinary Assistants has been added to in every other Province. They visited 83,114 villages against 64,380 last year; treating 450,919 cases of which (excluding 1,662 castrations and 258 cases treated in cattle markets for lice) 282,470 were of contagious diseases and 166,529 non-contagious maladies against 189,124 and 150,573 respectively last year. This increase of 109,302 may be regarded as very satisfactory.

Veterinary hospitals and dispensaries.

147. A reference to Table V will show that 408 Veterinary dispensaries were at work during the year under report against 380 last year, or an increase of 28. The increases are 3 in the United Provinces, 8 in the Punjab, 8 in Bombay Presidency, 5 in Madras Presidency, and 4 in Burma.

148. The number of in and out-patients treated was 518,787 against 428,402 last year. Satisfactory increases appear in the United Provinces, Punjab, Eastern Bengal and Assam, Bombay, Central Provinces, Burma and the North-West Frontier Province and North Punjab.

149. In Bengal of 27 dispensaries the one at Jessore was closed, as the Veterinary Assistant was ordered to do only district work. The dispensaries which call for special notice as regards work are Larpur, Muzaffarpur, Bankipur, Bhagalpur, Gya, Ranchi, Burdwan, Arrah and Cuttack. Proposals have been submitted for establishing Veterinary hospitals at Bettiah, Motihari and Beguserai, and it is hoped they will be in working order during next year.

150. The eight shoeing forges in the districts of Bengal are generally reported to be doing good work and gaining in popularity.

151. The work done by itinerating Veterinary Assistants is reported as satisfactory. The falling off in the number of cases as compared with last year's figures is accounted for by the fact that the actual number of new cases treated are now recorded. Inoculations and old cases for which only advice was given are now excluded.

152. In the Bombay Presidency the work done at the various dispensaries, with a few exceptions, show satisfactory progress indicating that these institutions are appreciated by the people. The average number of cases treated per dispensary is about the same as last year if the 8 new dispensaries (several of which were in working order for only a few weeks of the year) are included; but if we exclude these, the average is 2,674 against 2,266 last year.

153. In the Punjab there were 94 Veterinary hospitals against 86 last year. The total number of cases treated was 199,066 against 144,882 in the previous year. These figures represent a very satisfactory increase and indicate the growing popularity of these institutions. Of the 94 Veterinary hospitals 59 are constructed on standard plans and the remainder are accommodated in other buildings. A new hospital at Amritsar has long been anticipated, but has not been started yet. The Sargoda Veterinary hospital

was transferred to the Army Remount Department, and a new hospital, in place of the one at Sargoda, was opened at Sahiwal. It is expected that a new hospital will be built next year at Bhawani as Lala Tara Chand, *Rais* of Bhawani, has presented the District Board with a sum of ₹7,000 for that purpose.

154. In Eastern Bengal and Assam there has been no addition to the number of Veterinary hospitals and dispensaries. Sixteen thousand three hundred and forty-one (16,341) in and out-patients were treated against 15,390 in the previous year. As the Veterinary Assistants in charge of these institutions have also to tour in the districts, attend outbreaks of disease and inspect dâk lines, etc., the amount of work done may be considered very satisfactory.

155. In the North-West Frontier Province and North Punjab the total number of Veterinary hospitals and dispensaries remained the same, but under the revised system, introduced during the year under report, stationary men have been put in charge of these institutions: in addition to which one itinerating Veterinary Assistant has been appointed to each district. This system has answered satisfactorily in most places, but in several instances the stationary men had to render help in attending outbreaks, necessitating the hospital being temporarily closed. Gradually, with the appointment of suitable men to the districts this difficulty will be overcome. Thirty-nine thousand three hundred and twenty (39,320) animals were treated against 21,349 in the previous year. The increase is very satisfactory. New hospitals are to be built at Peshawar, Mardan and Tonk.

156. In the United Provinces 3 new Veterinary hospitals were opened, *viz.*, at Saharanpur, Bareilly and Moradabad, while others are about to be built at Sitapur, Meerut and Cawnpore. New premises for the Lucknow and Aligarh hospitals are being taken in hand and the building of institutions of this kind in other districts are under consideration. A very satisfactory increase in the number of cases treated is apparent, *viz.*, 34,634 against 23,878 last year, indicative of the growing popularity of these institutions.

157. Five additional Veterinary hospitals were opened in the Madras Presidency during the year, and proposals for starting 6 others are under consideration. The number of cases treated show a satisfactory increase, being 45,461 against 35,234 last year. In addition to this 2,074 cases were treated at the Madras Veterinary College.

158. In the Central Provinces the number of Veterinary dispensaries remain unaltered. The total number of animals treated was 58,271 against 56,591, showing an increase of 1,680 during the year. It is stated that new Camp dispensaries were opened at 7 centres.

159. In Sind the number of Veterinary hospitals and dispensaries remained the same as last year. The number of cases treated show a decrease of 1,398, *viz.*, 11,832 against 13,230 last year. This is reported by the Superintendent to be chiefly accounted for by inoculation cases having been excluded from this year's figures.

160. In Rajputana there are 2 Veterinary dispensaries, the same number as last year. The total number of cases treated was 828 against 1,289 last year. The decrease is reported to be due to the post of Veterinary Assistant at one of the dispensaries having been vacant for 7 months; and also to the prevalence of plague during the year, both in the Ajmer and Beawar districts.

161. In Baluchistan there are no Veterinary hospitals or dispensaries.

162. Four new Veterinary dispensaries have been added to last year's number in Burma. A satisfactory increase in the number of cases treated is noted, *viz.*, 17,043 against 10,739 in the previous year. These figures do not include the 298 cases treated by Inspectors and 26 by Veterinary Assistants in Shan States.

163. Table VI shows the receipts and expenditure on Veterinary hospitals during the year. As compared with last year's figures, the financial results of these institutions are satisfactory.

164. Table VII shows the total strength of the subordinate Veterinary staff. There were 65 Veterinary Inspectors and 688 Veterinary Assistants employed against 50 and 616 respectively last year.

III.—Breeding Operations.

(1) *Bovines.*

Stud bulls and their produce.

165. Table VIII gives the number of stud bulls the property of Government and of Local Boards. The figures furnished continue to show discrepancies and the information furnished cannot be considered reliable. Of stud bulls the property of Government, the closing balance of last year's return was 38, whereas the opening figures of this year's statement is shown as 50; similarly a discrepancy of 22 appears among the bulls the property of Local Boards.

166. In Bengal there are 3 bull-rearing and breeding farms, *viz.*, Siripur, Kalimpong and Bettiah; they are not maintained at Government expense. A new scheme is reported to have been adopted by which all bulls reared on these farms are to be distributed to various centres in the Estates instead of selling them to outsiders. During the year 13 bulls were so selected and distributed, and it is reported that their services are eagerly sought after.

167. Improvement is reported in the breeding of buffaloes by crossing them with Punjabi bulls.

168. Considerable improvement is reported to have taken place in the herd since the Siripur Farm was put under European supervision.

169. In Bombay the bulls maintained at the Chharodi Farm are occasionally allowed to serve the cows of local cattle breeders, and 36 young Khillari bulls are reported to have been purchased for the cows belonging to breeders of the Ahmednagar district. The Northcote Cattle Farm at Chharodi continues under the supervision of the Superintendent, Civil Veterinary Department, Bombay. The land of the farm has been acquired and necessary buildings are being constructed. The object of this farm is, principally, to breed bulls of pure blood for distribution among the herd of Gujarat. Careful selection and mating have resulted in bringing out the old characteristics of the breed and the herd can now be considered as of pure Kankrej blood. There are 18 young bulls which will be available for distribution next year, and 15 in the succeeding year. The breeding herd of cows is to be increased next year. Sufficient fodder reserve is maintained. This farm was visited by Colonel Pease last year, as well as by the Superintendent of the Government Cattle Farm at Hissar.

170. In the Punjab 53 bulls were supplied from the Hissar Farm, and 20 bulls of the Dhanni breed were obtained from Chakwal and Talagang for the North Punjab districts. It is reported that some districts are still very short of bulls. The subject of issuing detailed instructions, in regard to the best methods of maintaining stud bulls, of deriving the best success from them, and ensuring their proper care, is under consideration.

171. It is reported from Eastern Bengal and Assam that natives, in some districts, have so far failed to appreciate the value of suitable bulls, and that although the balls have toured about in the district the cattle owners showed no great interest in them, "nor did they prefer them to their own weak bulls."

172. The Superintendent in remarking on the limited supply of bulls, states :—"One method of solving this question of the scarcity of bulls, is to buy selected calves and rear them in a suitable district where there is sufficient grazing all the year round." Referring to the Provincial Cattle Farms, the Superintendent states that there are 6 young bulls ready to be distributed.

173. The Superintendent, North-West Frontier Province and North Punjab, states that the number of bulls at stud are quite inadequate if any permanent results are to be obtained, and that very little interest is taken by District Boards in cattle breeding. It is also stated that in many places there is difficulty in finding men willing to keep a District Board bull.

174. In the United Provinces the stud bulls maintained are chiefly the property of Court of Wards and private Estates, but it is reported that many District Boards are now contemplating the advisability of locating good bulls. In alluding to the difficulty in obtaining a sufficient number of mature and suitable bulls in the open market to meet the demand, the Superintendent puts forward the suggestion of enlisting the co-operation of some of the most

influential *Raises* and other gentlemen interested in cattle breeding and who have sufficient grazing on their Estates, by placing under their care small herds of 10 or 15 selected male calves to be reared until fit for issue as stud bulls.

In the Central Provinces the Superintendent states that there are signs of greater interest being taken in cattle breeding, especially in the Chhatisgarh Division. Four *Malguzars* are reported to have purchased about 50 cows and a bull, with which they intend to specialise in cattle breeding, and that certain Court of Wards and Zamindars have definitely arranged to start farms.

Bull rearing and breeding Farms and Depôts.

175. The main results of the working of Provincial Cattle Farms are given in Table IX.

176. In Bengal, at the Siripur Farm there were 44 cows, of which 9 were Farm bred. During the year 42 calves were born of which 3 died. Ten bull calves and 2 heifers were selected, and 2 cows and nine heifer calves were rejected and sold. The Agricultural Department at Pusa having decided to give up the *desi* herd of cattle, handed it over unconditionally to the Court of Wards, Bettiah. The herd consists of 1 bull, 45 cows and 42 young stock, together with 4 bulls which were sent to Siripur to be reared. It is intended to establish this Farm at Manjheria, about 4 miles from Bettiah. At the Kalimpong Farm there were 15 cows, and one bull was purchased in February 1910.

177. At "The Northcote Cattle Farm," Chharodi, in the Bombay Presidency, the herd consisted of 323 head against 340 last year. The decrease is due to the disposal of all unsuitable stock. Sixty calves were dropped during the year, against 95 last year. Sixteen young bulls were sold for stud purposes against 7 last year. There was no contagious disease among the Farm cattle, although several villages in the vicinity were affected.

178. At the Upper Shillong Farm, in Eastern Bengal and Assam, there were 82 head of cattle including 10 bulls and 21 cows. Sixteen calves were dropped. Six young bulls are ready to be distributed. Seven cows, 18 heifers and 6 calves were sold. One cow, 4 calves and 1 bullock died. Arrangements are being made to secure good grazing ground near Burapani, as during the winter months there is not sufficient food for the herd at the Upper Farm.

Camel breeding.

179. An attempt has been made to encourage the breeding of camels in the Punjab by the grant of substantial prizes for various classes of these animals at some of the Punjab Fairs. The Commandants of the various Silladar Camel Corps have subscribed ₹1,700 which has been allotted to the following centres :—

	₹
Campbellpore	600
Dera Ghazi Khan	200
Montgomery	200
Muzaffargarh	200
Jacobabad	200
Shikarpur	200
Batesar	100
TOTAL	1,700

180. The details of the scheme have, however, been left to the General Officers Commanding the Divisions concerned, who have been asked to work out, in communication with the local civil authorities, a definite plan and to decide upon the amounts of prizes to be allotted.

181. The scheme for the encouragement of camel breeding in the Punjab by throwing open certain surra free grazing areas is still under consideration.

(2) *Equines (under Local Bodies).*

Horse, pony and donkey stallions.

182. Table X shows the number of horse, pony and donkey stallions (under Local Bodies) employed at stud. At the beginning of the year there were 64 horses, 102 ponies and 99 donkeys present. Twelve horses (including 2

country-breds), 13 ponies and 6 donkeys were purchased during the year. Those died, destroyed and sold aggregated 20, leaving a balance at the end of the year of 71 horses, 105 ponies and 100 donkey stallions. They were distributed as follows:—

50 horses, 5 ponies and 17 donkeys in the United Provinces,
5 horses, 64 ponies and 70 donkeys in the Punjab,
10 horses, 9 ponies and 13 donkeys in the North-West Frontier Province,
5 horses and 14 ponies in Bombay,
1 horse and 1 pony in Bengal, and
12 ponies in Madras.

183. Table XI gives the services of horse, pony and donkey stallions. There were all told 176 horse and pony and 100 donkey stallions on the register, of which 61·02 horses, 102·85 ponies and 93·00 donkeys were actually employed at stud. The number of mares covered being 3,263 by horses, 4,922 by ponies and 4,302 by donkeys, or an average of 53·5, 47·8 and 46·3 respectively.

184. In Bengal and Bombay reports there is nothing special under this head worthy of record. Punjab alludes to the great shortage in the supply of donkey stallions and states that as the Hissar Farm is not likely to be able to meet the demand for some years, enquiries are being made as to the suitability of certain trans-Indus donkeys as sires for mule breeding, adding that if these latter animals are not available, it will be necessary to indent on Europe again. The North-West Frontier Province also complains of the paucity of donkey stallions. In the United Provinces horse breeding (under Local Bodies) is reported to be making satisfactory progress. The growing demand for the services of donkey stallions and the difficulty in obtaining them is alluded to. In Madras pony breeding shows an increase over last year's figures. In Central Provinces the only stallion they had was condemned as unfit for further service and sold, but the Superintendent states that there is still a demand for pony stallions, as several mares were brought for service after the sale of the stallion above alluded to. In Burma the only stallion employed was sold. The proposal for the preservation and possible improvement of the indigenous breed of Shan pony on a new system has been sanctioned and will, it is hoped, be brought into effect as soon as two of the essential factors for the fulfilment of the object in view are forthcoming, namely, funds and suitable stallions.

185. Table XII gives the average cost of feed, keep, attendance, etc., of horse, pony and donkey stallions. The cost, as compared with last year's figures, has increased in Burma, Madras and North-West Frontier Province; while it has fallen in Bombay, Punjab, Central Provinces and Bengal.

186. Table XIII is an abstract of particulars regarding Horse Fairs and Shows held in the non-selected districts.

Fairs and Shows.

187. Table XIV furnishes particulars regarding Cattle Fairs and Shows. One hundred and sixty-four were held against 133 last year. The total amount awarded in prizes was ₹23,677-4-0 out of ₹40,939 available. Forty-nine (49) medals were awarded. The total number of animals competing for prizes was 156,536 against 80,915 last year, and the total number of stock present was 863,355 against 760,812, showing an increase of 102,543. Last year no figures were supplied from the United Provinces, and this year Rajputana has failed to furnish statistics under this head.

IV.—Subordinate Establishment.

Numbers, supervision and work performed.

188. Table VII shows the strength of the subordinate establishments at the end of the year.

189. *Bombay.*—The work performed by Veterinary Assistants in this Presidency is reported as generally satisfactory. The entire staff, with two exceptions, has now undergone a course of training in inoculation work. The Superintendent adds:—"The standard of professional knowledge of

Veterinary Assistants, as a whole, is not high. In fact some of them have degenerated into mere empirics and some are incompetent. There is great need for improvement in this respect and the question of establishing post graduate courses was mooted during the year under report."

190. *Punjab* states " The subordinate staff continues to improve in efficiency. Much depends upon the degree and quality of supervision of the Inspectors who, generally, have worked well ". Proposals have been submitted for an increase in the number of Veterinary Inspectors and also in the reserve staff which is found to be quite inadequate.

191. *North-West Frontier Province and North Punjab.*—The Veterinary Inspectors and Veterinary Assistants are reported to have worked energetically and well.

192. *United Provinces.*—The Provincial subordinate staff has been increased but a greater demand for the services of Veterinary Assistants has been created by the opening up of new dispensaries, and the Superintendent states that the Veterinary Assistants " have worked very hard and conscientiously in the face of many difficulties ".

193. *Madras.*—The work done by Veterinary Inspectors and Veterinary Assistants is satisfactory.

194. *Burma.*—The work of Veterinary Assistants has, on the whole, been quite satisfactory.

195. The following statement shows the sanctioned establishments of the various Provinces, the number added and the strength at the end of the year :—

Province.	Sanctioned scale.				Number employed during 1909-10.				Increase during 1909-10.				Remarks.
	Deputy Superintendents.	Veterinary Inspectors.	Veterinary Assistants.	Dressers.	Deputy Superintendents.	Veterinary Inspectors.	Veterinary Assistants.	Dressers.	Deputy Superintendents.	Veterinary Inspectors.	Veterinary Assistants.	Dressers.	
Punjab . . .	...	24	170	...	...	12	135	...	...	...	8	...	
North-West Frontier Province and North Punjab .	...	2	26	...	...	2	(a) 23	...	...	...	...	...	(a) Three vacancies on 31st March 1910.
United Provinces .	2	20	210	...	...	12	129	...	...	3	29	...	
Bengal . .	9	30	229	...	...	16	68	...	...	10	12	...	
Bombay . .	4	24	215	...	...	2	36	...	...	1	2	...	
Madras . . .	3	15	132	...	...	3	43	...	...	1	1	...	
Central Provinces and Berar . .	...	8	120	...	...	6	82	...	...	...	7	...	
Burma . . .	5	12	120	...	...	10	112	...	...	...	5	...	
Eastern Bengal and Assam . .	2	8	120	...	...	2	44	...	...	...	11	...	
Sind, Baluchistan and Rajputana .	...	...	2	...	...	...	11	...	...	...	...	...	
Imperial.													
Government Cattle Farm, Hissar .	1	...	2	...	...	...	2	...	...	...	...	...	Deputy Superintendent transferred to Punjab Veterinary College.
Bacteriological Laboratory .	...	4	...	10	...	4	...	10	...	...	...	...	
Veterinary Officer Investigating Camel Diseases .	...	...	2	...	...	...	2	...	...	...	...	...	
Total .	26	147	1,348	10	...	69	692	10	...	15	75	...	

PART B.—IMPERIAL ADMINISTRATION.

Bacteriological Laboratory.

196. Captain J. D. E. Holmes, M.A., D.Sc., held charge of the Laboratory up to the 16th February 1910 and since his departure on combined leave Major F. S. H. Baldrey, F.R.C.V.S., D.V.H., officiated in the appointment of the Imperial Bacteriologist.

197. Mr. Cross held the office of the Assistant Bacteriologist and Dr. Hartley that of the Physiological Chemist throughout the year.

198. Mr. J. G. Cattell after completing his training at this Laboratory was posted in the month of October 1909 for training in district work under the Chief Superintendent, Civil Veterinary Department, Punjab.

199. The three European Laboratory Assistants remained in their respective posts.

Preparation of Sera.

200. *Rinderpest anti-serum.*—Four hundred and nine thousand and seventy-eight (409,078) doses of anti-rinderpest serum issued have been prepared as against 545,974 doses, or 136,896 doses less than in the previous year.

201. The serum issued amounted to 446,981 doses as against 627,349 doses during the previous year.

202. The shortage in preparation of the serum was solely due to insufficient supply of hill bulls.

203. The demand far exceeded the supply and very great inconvenience resulted from the suspension of the issue for about three months so as to allow of a small reserve being collected. The supply to Foreign countries had to be discontinued entirely and that to Native States limited. The demand is still greater than can be met and the provision of another serum Laboratory is a pressing necessity; search is being made for a suitable site and it is hoped that we may find one in the near future.

204. The popularity of the method is daily increasing in all Provinces, except Bombay where nothing is being done. No doubt the good results which follow its use rapidly overcome the prejudices of the people who ask for it when rinderpest breaks out.

205. The results of the anti-serum injections carried out in the field and collated from the respective returns received in this office are as follows :—

Province.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
Punjab	284	...	5,672	...	...	43,277	...	...	94	...	
North-West Frontier Province and North Punjab	40	...	998	...	...	15,068	...	...	8	...	
Bengal	85	...	872	2	...	12,549	37	...	93	5	
Bengal Veterinary College	53	...	74	...	...	2,443	...	...	30	...	
Eastern Bengal and Assam	...	...	...	...	...	...	...	...	...	...	
United Provinces of Agra and Oudh	570	...	5,629	...	...	43,212	...	...	91	...	
Central Provinces	196	...	1,887	...	...	21,916	...	...	49	...	
Madras	593	...	12,724	1,025	...	46,952	1,149	...	38	...	
Bombay	...	...	...	...	...	...	...	...	...	...	
Mysore State	64	...	1,178	...	...	10,497	...	...	1	...	
Nagod State	4	...	80	73	...	652	84	...	...	...	
Burma	34	...	642	...	...	3,466	...	...	81	...	
Sind, Baluchistan and Rajputana	5	...	718	...	...	387	7	...	2	...	
Hissar Cattle Farm	2	...	18	...	...	376	34	...	4	...	

206. The work of the Laboratory was carried on under very great difficulties. In the early part of the year rinderpest and foot and mouth disease among animals and cholera among the villagers prevailed throughout the

districts from which animals are purchased. Foot and mouth disease remained throughout the whole year. Mr. Grundy, the purchasing Agent, was unable to obtain more than half the supply of bulls required each month. Of the bulls received, the majority arrived with severe lesions of foot and mouth disease. Few of the bulls were in suitable condition and there was a large percentage of calves and very old animals. The following is a statement of the animals received with a record of their condition :—

Numbers received free from disease.	Numbers affected with foot and mouth disease at time of arrival.	Total number received.	Condition of bulls received.				
			In suitable condition.	Calves under 1 year age.	Old.	Weak.	Total.
680*	1,447	2,127†	1,257	301	169	400	2,127

* Many of these became infected soon after arrival.
† Out of these 203 animals died soon after arrival at Muktesar.

207. To avoid an entire failure of the supply of serum, the diseased bulls had to be used. The treatment of the affected bulls and the carrying out of all necessary precautions to prevent the infection spreading among the serum preparing and other experimental animals, threw a very heavy amount of extra work on the whole staff.

208. The fact that in face of all these difficulties, although the issue had to be suspended for a short time, the preparation of serum was not once interrupted and that the amount of rinderpest serum prepared falls short by about one lac of doses, taking the mean annual output at 5 lacs doses, testifies to the zeal and good work of the staff directly engaged in that duty.

209. The shortage in the supply of bulls has also been a serious drawback to all experimental treatment as well as to the preparation of serum. Only animals discontinued from serum preparation could be spared for this work. The year has also been a disastrous one for Mr. Grundy who lost a large number of bulls from disease on the road to Muktesar.

210. As far as the limited supply of bulls permitted, experiments were carried out with a view to improve methods of rinderpest serum preparation. A number of discontinued bulls were sent out into the district immune to rinderpest.

211. Two series of experiments were conducted by a new method and also other experiments with dilutions of virulent blood.

212. Investigation as to the possibility of using plains bulls only in the preparation of serum were started and are still in progress. This question is one of great importance, as the supply of hill bulls is becoming more difficult to obtain each year.

Anthrax anti-serum.

213. During the year under review 12,168 doses of this serum were prepared as against 29,786 doses, and 12,404 doses issued against 30,933 doses during the previous year. The amount of manufacture was regulated according to the demand in the field.

214. The following table shows the result of injections carried out in the field with anti-anthrax serum :—

Province.	Number of outbreaks in which inoculation was undertaken.	Number of animals owhich died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
Madras . .	1	...	13	...	...	36	...	...	...	...	
Mysore State .	1	...	15	...	...	220	...	...	1	...	

215. The investigation into methods of immunizing against anthrax had to be suspended owing to the difficulties previously explained. Experimental immunization by vaccination is being carried on and it is hoped to issue a report on this work at an early date.

Hæmorrhagic Septicæmia.

216. During the past official year, 8,320 doses of Hæmorrhagic Septicæmia vaccine were prepared and with the previous year's balance 9,960 doses in all were issued.

217. Further tests of the serum have been carried out on ponies and buffaloes. The results have been as satisfactory as heretofore and confirmed the view that serum is a safe and effectual agent for conferring a passive immunity and the vaccine an active one.

218. From the following table the result of injections carried out in the field will be seen :—

Province.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
Punjab	5	...	...	...	...	219	...	...	...	...	
United Provinces of Agra and Oudh	101	...	653	...	...	7,491	...	...	6	...	
Central Provinces	...	...	...	...	...	406	...	...	...	...	Result satisfactory.

219. With regard to the efficacy of results of preventive inoculation for Hæmorrhagic Septicæmia, the Superintendent, Civil Veterinary Department, Central Provinces, states :—

" The results appear to me to be remarkably good. Sufficient time has not yet elapsed to pronounce with absolute certainty of the result, but I forward the appended table to show what is up to now so satisfactory."

Charbon Symptomatique.

220. During the year under review 20,350 doses of single vaccine and 5,800 c.c. of serum were prepared. The total issue to various Superintendents including previous year's balance being 20,900 doses. From some Provinces the results reported were very satisfactory and no casualties occurred from their use at Government Cattle Farm, Hissar. Some doubtful results however were reported from the Punjab, but it is possible that the deaths reported from some Provinces may have been due to intercurrent disease.

221. The following table shows the result of injections carried out in different Provinces :—

Province.	Number of villages in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
		Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
Punjab	49	...	7	...	...	1,978	...	...	16	...	
North-West Frontier Province	25	...	...	...	...	4,931	...	...	20	...	
United Provinces of Agra and Oudh	13	...	91	...	...	2,189	...	...	...	...	
Madras	17	...	355	...	...	797	...	...	...	...	
Sind, Baluchistan and Rajputana	2	...	81	...	...	97	...	...	1	...	

222. *Strangles.*—As an experimental measure 5,753 c.c. of strangles serum and some vaccine were prepared by Baruchello's method as a prophylactic against strangles, of which 125 doses were issued for trial in the field. No definite results have as yet been received.

223. *Mallein.*—Nine thousand five hundred and fifteen (9,515) doses of Mallein were prepared against 9,238 during the previous year. The total issue being 10,137 against 9,052 doses in the year 1908-09. As during the last year fresh cultures were obtained from cases of Glanders for the preparation of Mallein and fresh brews were prepared and tested every four months.

224. *Tuberculin.*—Four hundred and forty-four (444) doses of Tuberculin were prepared against 306 in the past year. The total demand or issue was 469 doses.

225. *Specimens examined.*—During the year under review only 84 specimens were received for examination against 138 in the previous year and results communicated with the least possible delay to the persons interested on the subject.

226. *Training of Veterinary Assistants.*—Twenty-six Veterinary Assistants were trained at Muktesar and ten at Bareilly, making a total of 36 against 71 during the last year. This decrease in the number of Veterinary Assistants is due to the facilities now afforded in the Veterinary Colleges to train the students in inoculation work.

227. During the past year the following officers of the Veterinary Department worked at this Laboratory :—

(*i*) Captain W. O. Dawson from July 4th to September 29th, 1909.

(*ii*) Mr. J. G. Cattell on training from the beginning of the year to October 1909.

(*iii*) Captain R. C. Cochrane, A.V.C., for a course of instruction in sera preparation and inoculation, etc., from 18th September 1909 to 24th February 1910.

228. During the year 1909-10 the following doses of sera were prepared and issued from the Muktesar Laboratory :—

Serial No.	Name of Sera.	Opening balance.	Prepared.	Total output.	Issue.																	Total issue.	Balance in hand.
					Punjab.	North-West Frontier and North Punjab.	South Punjab.	United Provinces of Agra and Oudh.	Bengal.	Eastern Bengal and Assam.	Central Provinces.	Madras.	Bombay.	Coorg.	Sind, Baluchistan and Rajputana.	Burma.	Military Department.	Native States.	Indian Firms.	Foreign Countries.	Used in experiments at the Laboratory.		
1	Rinderpest	41,563	409,078	450,641	24,320	18,000	24,000	90,600	41,000	53,800	28,000	53,000	6,500	5,000	...	15,000	58,360	21,400	700	3,400	3,901	446,981	3,660
2	Anthrax	4,036	12,168	16,204	40	...	...	500	...	10,000	...	...	...	...	...	...	200	1,610	...	...	54	12,404	3,800
3	Hæmorrhagic Septicæmia vaccine	1,640	8,320	9,960	50	...	...	7,210	...	...	2,600	...	...	...	...	...	100	...	...	...	...	9,960	...
4	Charbon Symptomatique	550	20,350 and 5,800 c.c. serum.	20,900 and 5,800 c.c. serum.	1,700	5,750	2,000	3,000	...	...	250	5,000	100	...	400	...	...	...	...	...	2,700*	20,900	5,800 c.c. serum.
5	Mallein	3,352	9,515	12,867	66	22	...	189	700	...	3	...	25	...	...	96	7,211	1,425	...	...	400†	10,137	2,730
6	Tuberculin	165	444	609	62	...	...	90	30	...	50	...	20	...	...	140	59	...	...	...	18	469	140
7	Strangles vaccine and serum	...	5,753 c.c.	5,753	...	...	...	...	...	...	...	...	...	...	...	...	2,000 c.c. or 125 doses.‡	...	...	...	583 c.c.	2,583	3,170 c.c.
	Total	51,306	459,875 and 11,553 c.c.	511,181 and 11,553 c.c.	26,238	23,772	26,060	101,589	41,730	63,800	30,903	58,000	6,645	5,000	400	15,236	65,930 and 2,000 c.c.	24,435	700	3,400	7,073 and 583 c.c.	500,851 and 2,583 c.c.	10,330 and 8,970 c.c.

* Discarded.

† Includes 342 discarded.

‡ 50 doses vaccine.
75 „ serum.

229. *Research.*—The programme of research work for the year under report included the following subjects :—

(*i*) *Anthrax.*—To continue the investigation laid down in the programme of the previous year.

(*ii*) *Charbon Symptomatique.*—The preparation of an anti-serum.

(*iii*) *Surra.*—Methods of treatment.

(*iv*) Further tests of vaccines prepared during the past year against Hæmorrhagic Septicæmia and Charbon Symptomatique.

230. *Anthrax.*—As previously explained this investigation had to be suspended for the greater part of the year. The results obtained are being put together and will be published.

231. *Charbon Symptomatique.*—A serum was prepared with a view to its use in actual outbreaks where the use of vaccine is attended with danger. This serum has been tested in the Laboratory but not yet used in the field.

232. *Surra.*—The further investigation into the curative treatment of surra has met with the most successful results. The tests which up to the present have been carried out prove beyond any reasonable doubt that surra in horses is curable by a simple treatment with arsenious oxide. We have kept under continuous observation upwards of 60 treated cases. None have shown a relapse during periods reaching up to two years from the completion of their treatment.

233. In our hands we have been able to cure about 80 per cent. of cases treated. The treatment was subjected to the most severe test it is possible to apply. Twenty ponies from the Transport Corps were sent to the Laboratory in October 1909. These ponies had contracted surra in the Kathgodam road. They were in the last stage of the disease entirely emaciated and hardly able to walk. They were aged ponies, most of them well over sixteen years. Out of these twenty ponies, two died from colic not attributable to the treatment. One died from injuries received by being cast in his stall. This occurred some weeks after the completion of his treatment. Ten were returned to work at the end of January 1910, having been under observation three months from the termination of treatment. Seven others were returned to the Transport at the end of March 1910. These also were kept under observation for three months.

234. *Further tests, etc.*—Further tests with peritoneal washings in the immunizing of animals against rinderpest have during the last few months been made and it would appear that the method is valuable and a great saving. This fluid is now being extensively used with no untoward results.

A number of other experimental investigations regarding vaccine against Hæmorrhagic Septicæmia and Charbon Symptomatique were carried out, results of which will be submitted for publication.

235. *Administration.*—The arrangements for the supply of fodder and fuel were satisfactory. As usual fodder in large quantities was obtained from the forests of Dhari, Peora and Ramgarh, in addition to that supplied by our own area.

236. The shortage in the supply of hill bulls is engaging our serious attention. Every endeavour is being made to open new tracts of country for the purpose of collection and every possible facility is given to the purchasing agent.

237. *Forests.*—The Muktesar reserved forests supplied our demands for fuel and charcoal and a small quantity of fodder. The administration was carried on under the provisions of the sanctioned Working Plan. The Forest Department recommended that the management of this area be left in their hands, which course on account of the difficulties of dual control and other reasons was not deemed advisable. The sowing and planting operations were carried on as usual.

Bareilly Branch Laboratory.—This Depôt remained open during the past year from the 15th of November 1909 to the middle of March 1910. The work of serum testing, training of Veterinary Assistants, researches on camel

trypanosomiasis and various experiments with a view to prepare serum from plains animals were carried out.

238. I have much pleasure in recording the excellent work which has been done during the year. The whole of the staff has continued to carry out their duties zealously under the most trying and discouraging conditions. The work done in the experimental treatment of surra has been attended by the most brilliant results and very great credit is due to Captain Holmes, Mr. Cross and Dr. Hartley for the results achieved. Mr. Cross, on whom the actual treatment of the horses devolved, was most zealous in the performance of his duties, and to him much of the success is due.

Government Cattle Farm, Hissar.

239. Major (now Lieutenant-Colonel) J. Farmer was in charge of the Farm during the year. Mr. E. Burke, Deputy Superintendent, was transferred to the Punjab Veterinary College in December 1909 and his post remained vacant owing to the impossibility of finding a suitable officer to fill it. Much extra work was in consequence thrown on the Superintendent who is much overworked.

240. There has been no change in policy during the year, the system which has so far given good results having been adhered to. I am glad to report that the operations at the Farm have been successful and that there has been continued all round improvement.

241. The period for which the sanction of Government was accorded to the management of the Farm by this Department having expired, a special report on the operations carried on for the last four years has already been submitted for consideration. This report gives details of all matters dealt with at the Farm and is already in the hands of the Government of India.

242. The Farm year has been an average one. The rains were good but there was an unfortunate break in July which injured the *barani crops*. We were particularly unfortunate regarding outbreaks of contagious disease, rinderpest, foot and mouth disease, black quarter having occurred amongst the cattle and sheep and strangles and infectious pneumonia in the mules and donkeys.

243. Rinderpest broke out in the Sully herds in July 1909, the total number of animals exposed to contagion being 439, of which 41 became affected and 22 died. Fortunately, the disease was early diagnosed and precautions of segregation, etc., adopted. There was some delay in obtaining serum, but eventually 376 animals which had been exposed to contagion, were injected with anti-rinderpest serum which stopped the outbreak.

244. Rinderpest also broke out amongst the Merinos in October 1909 and four deaths occurred. Thirty-four were inoculated.

245. Hæmorrhagic Septicæmia also occurred in October 1909 and there were 7 deaths.

246. Foot and mouth disease appeared in May and affected all the animals. It was not severe and caused no deaths. When flies are prevalent the disease is very troublesome as it is difficult to prevent maggots in the wounds.

247. Occasional cases of Charbon Symptomatique still occur, although we inoculate all stock at weaning time with Blacklegoids. The following table gives the cases which have occurred and the time which elapsed since they were inoculated :—

Serial No.	Number.	Inoculated on	Attacked on	Interval between inoculation and attack.			Remarks.
				Y.	M.	D.	
1	Male 2/7 H 173	15th July 1908.	10th June 1909.	...	10	26	
2	„ 2/7 H 144	15th July 1908.	16th July 1909.	1	...	1	
3	„ 3/8 H 207	5th April 1909.	18th July 1909.	...	3	13	

Serial No.	Number.	Inoculated on	Attacked on	Interval between inoculation and attack.			Remarks.
				Y.	M.	D.	
4	Male 4/7 H 295	13th July 1908.	20th January 1909.	...	6	7	
5	„ 2/9	...	15th October 1909.	...	...	...	Not inoculated.
6	„ 1/9 H 54	13th October 1909.	11th November 1909.	...	...	28	
7	„ 4/8 H 303	6th July 1909	12th January 1910.	...	6	6	
8	„ 2/7 H 171	15th July 1908.	17th January 1910.	1	6	2	
9	„ 2/8 H 147. . . .	8th March 1909.	20th February 1910.	...	11	12	
10	„ 1/9 H 36	12th October 1909.	20th February 1910.	...	4	8	
11	„ 1/9 H 63	13th October 1909.	27th February 1910.	...	4	14	
12	„ 3/8 H 194 . . .	5th April 1909.	15th March 1910.	...	11	10	
13	„ 1/9 H 47	13th October 1909.	19th March 1910.	...	5	6	
14	„ 1/9 H 105	16th October 1909.	23rd March 1910.	...	5	7	
15	„ 2/8 H 139	8th March 1909.	25th March 1910.	1	...	17	
16	Female 1/9	...	4th July 1909.	...	...	...	Not inoculated.
17	„ 3/8 H 193 . . .	1st April 1909	1st October 1909.	...	6	...	
18	„ 3/8 H 222 . . .	1st April 1909	1st October 1909.	...	6	...	
19	„ 2/8 H 135 . . .	10th March 1909.	1st October 1909.	...	6	21	
20	„ 4/7 H 266 . . .	4th July 1908	4th October 1909.	1	3	...	
21	„ 4/7 H 245 . . .	4th July 1908	4th October 1909.	1	3	...	
22	„ 2/8 H 143 . . .	10th March 1909.	4th October 1909.	...	6	24	
23	„ 2/8 H 146 . . .	10th March 1909.	6th October 1909.	...	6	26	
24	„ 2/8 H 79 . . .	10th March 1909.	6th October 1909.	...	6	26	
25	„ 3/8 H 219 . . .	1st April 1909	7th October 1909.	...	6	6	
26	„ 2/9	...	20th October 1909.	...	...	...	Not inoculated.
27	„ 2/9	...	20th October 1909.	...	...	...	Ditto.
28	„ 3/8 H 225 . . .	1st April 1909	21st October 1909.	...	6	20	
29	„ 1/9	...	14th October 1909.	...	...	...	Not inoculated.
30	„ 4/7 H 240 . . .	4th July 1908	11th November 1909.	1	4	7	
31	„ 3/9	...	10th January 1910.	...	...	...	Not inoculated.

248. The number of animals inoculated was 1,617 and 25 subsequently contracted the disease. The percentage of loss from this disease has considerably decreased since the introduction of inoculation. Both, Muktesar and Parke Davis and Company's, vaccines were employed and gave about equal results. There was no inoculation mortality.

249. Contagious pneumonia broke out amongst the mules and donkeys in April. Forty-two animals became infected, and of these 15 died and 27 recovered. The source of this infection is unknown. It started in the donkeys and spread rapidly until the animals were segregated. It ceased on the 7th May.

250. It is impossible to keep the Farm animals free from contagious disease to which they are exposed on all sides. Constant watchfulness and early and energetic action is consequently necessary should any disease gain entry. The manner in which the outbreaks have been dealt with reflects great credit on the Superintendent and his staff.

251. Table XVI gives a complete return of the animals on the Farm for 1909-10, and it is only necessary for me to mention here the changes which have occurred during the year.

252. *Herd bulls.*—The very important subject of providing the very best bulls available has received the most careful attention, and I am glad to say that our position has very materially improved in this respect. We have been able to put 8 exceptionally good bulls into the herds and to remove three which were not considered up to the standard. Our stud bulls now are of excellent quality and the results should show in a few years' time. One bull died during the year.

253. *Cows.*—The herd of breeding cows only shows an increase of 18 over last year. The reason for this is that a good market offered and we took the opportunity of getting rid of a number of cows which were not quite up to the standard. They were replaced by heifers of our own breeding. Thus the herd has been greatly improved in quality.

254. *Calves.*—The calvings were good again this year, 663 calves being dropped or a percentage of over 60. Of these, 318 were males and 345 cow calves. The average is less than last year but is still very good. The quality of the calves generally is very good indeed.

255. *Bulls and Bullocks.*—Fifty-seven bulls were supplied to District Boards and others for breeding purposes and 178 bullocks to the Military Department. The whole of these animals were of very good stamp.

256. *Mules.*—There has been no improvement in the position regarding this part of the Farm scheme. We have only 83 mules on the estate instead of 400 and have only been able to obtain 21 by purchase in the open market. We are endeavouring to come to some arrangement with the Army Remount Department to improve matters as there is no doubt that the Hissar reared mule is an excellent animal. Of the 58 mules due for issue, 31 were up to the standard for Ordnance, 23 went to Transport and there were four casualties. Amongst those issued for Transport many only just missed being Ordnance mules and I am sure that the Transport Department could not buy similar animals in the open market.

257. There were 37 mares kept for mule breeding during the year, and of these 13 foaled and 20 are now in foal. The number of mules born in considerably less than last year, *i.e.*, 35·1 per cent. This is the case always in this industry, alternate years being good and bad. As has been shown in the detailed report already submitted on the working of the Farm, the general percentage of foalings has been good. I am now increasing the number of mares to 50—the sanctioned strength.

258. *Donkey stallions.*—One was bought during the year and one, which was not getting good stock, was sold. The old Italian donkey "Calcutta" now 17 years old is still getting good mule stock and the three farm bred donkeys "Hansi", "Hissar" and "Farmer's boy" are quite satisfactory.

259. *Stud Donkey Mares.*—Our stud of donkey mares was increased by 5 and now stands at 93.

260. *Foalings.*—Forty-five foals were born during the year, giving a percentage of 51·7 which may be considered to be very satisfactory. The number of males born was 26 and of females 19.

261. *Donkey Colts.*—The donkey colts are a good lot, all but two being likely to grow into good Jacks. Two were sold to the Army Remount Department and six to District Boards.

262. *Donkey Fillies.*—With the exception of three, these are a good lot.

263. *Sheep.*—The crossing of Bikanir sheep with the Dumba ram has been discontinued. The cross bred sheep produce good mutton and the yield of wool is somewhat improved. We are now going on two distinct lines :—

(1) Breeding pure Merinos.
(2) Cross breeding Merino ram and Bikanir ewe.

264. The object of the pure Merino herd is to endeavour to produce pure bred rams in the country instead of importing them. The operations are of too recent origin to allow of any definite conclusions being arrived at. Last year we had only 333 ewes, the crop of lambs from which was 251,—132 males and 119 females. The mortality in this small herd was 125. We obtained 19 ewes and three rams from Australia during the year, too late for anything to be done. They were a good lot. The total strength of the herd is now 596.

265. Three flocks of selected ewes are running with the Merino rams and the results are fairly satisfactory, but the mortality continued to be somewhat heavy (about 16 per cent.). The housing and care of sheep, however, has until recently left much to be desired and I am glad to say that very great improvement has been made in this direction during the year. New and excellent pens have been provided and the animals are now kept in comfortable and sanitary pens.

266. *Cultivation.*—Good work has been done in the improvement of the cultivation and the results are satisfactory, despite the various difficulties which have to be contended with. I think that now that the store of reserve fodder is rapidly approaching a lac of maunds, it will be possible to abandon or reduce areas lying far afield and to confine our cultivation to land most conveniently situated and to substitute to a greater extent intensive for extensive cultivation. This will be necessary as the labour difficulty seems likely to increase and become more serious year by year. With this object in view, Lieutenant-Colonel Farmer has devoted much time and attention to the improvement of the land near at hand. Water-courses have been remodelled, level of fields lowered, boundaries straightened, roads made and trees planted in the Mundianwala, Chowni, Stable and Sully blocks. The Kherwan block will be reduced. The difficulties connected with labour are very great. The demand exceeds the supply and it is not an easy matter to get men at all when most required, as the wages offered are not very high. I found that many of our ploughmen came as much as five or more miles to work and as a consequence we never got anything like a fair day's work done. It has been decided to put up a block of ten houses for them on the estate, as an experiment, to try to induce them to remain as permanent labourers. If this proves a success, others will be put up later on.

267. *Machinery and rolling-stock* is kept in excellent order. A new threshing machine, straw bruiser and two elevators have been received from England.

268. *Buildings, roads, etc.*—The buildings, etc., generally have, so far as possible, been kept in good order. New sheep pens have been made, *pucca* roads constructed at Chowni and another to the Stable Farm, and a new road made from the Home Farm to the Donkey paddocks. The new *post-mortem* house is almost complete. The Home Farm has been very greatly improved by the drainage operations which have been carried out. The low-lying places have been raised and drains made to carry off the rain water to Chowpalia tank. Trees have also been planted to give some shade in the Home Farm as well as in the Sully Farm.

269. Table XVIII shows the expenditure on the Farm to have been ₨1,13,639 and the receipts ₨1,02,027, while the valuation of the stock, etc., is ₨3,65,690 against an expenditure of ₨1,08,688, receipts ₨93,907 and valuation of stock ₨3,41,655 last year. The expenditure therefore increased by nearly ₨5,000 due to purchase of stock, sheep, etc., whilst the receipts rose over

₹8,000 from sales of stock. The results may be considered satisfactory. The value of the Farm, however, cannot be expressed in figures, for in addition to supplying animals to Government, District Boards, etc., at a nominal rate, the like of which cannot be obtained elsewhere, the Farm is an object lesson to breeders in the surrounding country and is the only source of supply of stud bulls of the type famous in Harriana to which our herds have been bred.

270. Lieutenant-Colonel Farmer has worked very hard during the year and the results achieved are due to his zeal and energy. He brings to notice the good work done by Lieutenant Morris, Farm Overseer; Mr. MacCutchan, Farm Bailiff; and Veterinary Assistant Ghulam Hussain. The post of Deputy Superintendent fell vacant in December and it has been found impossible to fill it again so far. The Superintendent is much overworked at present and the question of giving him some assistance is under consideration.

PART C.—GENERAL.

Expenditure of the Department.

271. The total cost of the Department (both Imperial and Provincial) as shown in Table XIX amounts to ₹20,51,849-1-6 against ₹17,30,508-12-11 last year, showing an increase of ₹3,21,340-4-7. In regard to the figures of the Imperial grant, as furnished by the Comptroller, India Treasuries, there is a net increase of only ₹3,872, the remainder of the increase appears under Provincial charges as rendered by Accountants General.

General Remarks.

272. The work of the Department has been dealt with fully in the body of the report and it will be seen that the progress of the Department is very satisfactory. As in the previous year, the Imperial staff has been fully occupied. Without an increase further work cannot be undertaken.

273. If more Imperial officers cannot be appointed, it will be necessary to take some steps in the direction of training capable men for appointments as Deputy Superintendents. They would be required to supervise the work of Inspectors and Veterinary Assistants and also to direct operations in the suppression of contagious diseases.

274. Notwithstanding a large amount of work done by the present staff, the appointment of Pathologists, as recommended by the Advisory Committee, is desirable. In the matter of early reports of outbreaks of disease and checking of inoculation work carried out in the field, there is a decided improvement.

275. The frequent and large demands for anti-rinderpest serum continues. Unfortunately, for reasons, already stated, the Laboratory, in spite of every effort on the part of the staff, was unable at all times to comply with the indents. The desirability of the establishment of a second Laboratory for the manufacture of serum to cope with the annually increasing demands is now under the consideration of the Government of India. It is hoped that in the near future a suitable site for the establishment of such will be obtained.

G. H. EVANS, *Lieutenant-Colonel,*
Offg. Inspector-General,
Civil Veterinary Department.

SIMLA,
The 6th October 1910.

TABLE I.

Showing the main results of Veterinary Colleges and Schools during 1909-10.

Veterinary Colleges and Schools.	Name of course of instruction if more than one course followed.	Number of Students: Admitted during the year: Scholarship-holders.	Number of Students: Admitted during the year: Others.	Number of Students: Passed final examination during the year.	Number of Students: Failed to pass final examination.	Number of Students: Remaining under instruction at end of year: In ordinary course.	Number of Students: Remaining under instruction at end of year: Instruction prolonged by reason of failure to pass.	Students admitted during the year, classed by educational qualifications: Matriculated with higher qualifications.	Students admitted during the year, classed by educational qualifications: Knowing some English, but not matriculated.	Students admitted during the year, classed by educational qualifications: Knowing no English or very little English.	Receipts: From fees.	Receipts: From other sources.	Receipts: Total.	Expenditure: Salaries of Instructing Staff.	Expenditure: Other expenses.	Expenditure: Total.	Employment of students who passed out during the three years preceding: Total number passed.	Employment of students who passed out during the three years preceding: In service of Government or Local Bodies.	Employment of students who passed out during the three years preceding: In service of other bodies or institutions.	Employment of students who passed out during the three years preceding: In private practice.	Employment of students who passed out during the three years preceding: Number unemployed.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		No.	No.	No.	No.	No.	No.	No.	No.	No.	Rs. A. P.	Rs. A. P.	R A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	No.	No.	No.	No.	No.	
Bombay Veterinary College		10	22	20	11	50	19	9	23	..	4,650 0 0	4,063 0 0	8,713 0 0	30,802 15 1	23,267 13 3	54,070 12 4	60	(a) 14	33	4	(b) 9	
Burma. . . .	Senior A .	5	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Senior B .	(c) 24	..	..	..	(e) 20	..	..	..	..	..	..	..	13,331 0 0	9,345 9 1	22,676 9 1	42	41	..	..	(f) 1	
	Junior .	(d) 15	..	..	..	13	..	..	..	15	..	..	..	..	..	..	..	..	..	..	..	
Punjab Veterinary College.	Diploma or 3 years' course in Urdu.	27	48	(g) 68	(h) 34	183	66	9	36	30	8,186 0 0	4,268 0 0	12,454 0 0	50,645 0 0	27,250 0 0	77,895 0 0	199	181	18	..	..	
Bengal Veterinary College	3 years' course in English.	35	8	32	5	75	23	3	40	..	No College fee is charged for instruction.	15 8 0 Fine of students	15 8 0	40,709 9 8	3,138 8 4	43,848 2 0	89	78	..	2	9	
Madras	..	10	20	12	9	58	9	3	27	..	14,243 2 10	..	14,243 2 10	15,945 3 1	2,724 0 0	18,669 3 1	52	35	7	..	(i)	
Total .		126	98	137	59	399	117	24	126	45	27,079 2 10	8,346 8 0	35,425 10 10	1,51,433 11 10	65,725 14 8	2,17,159 10 6	442	349	58	6	19	

(a) Includes 3 men holding temporary appointments. (b) Includes those about whom definite information is not available. (c) Three dismissed, one died. (d) Two resigned. (e) Includes 1 Shan, 19 Burmans. (f) One not employed owing to ill-health. (g) Six passed in June 1909 and 62 in April 1910. (h) Ten men failed in one subject only. (i) Information not available.

TABLE II.

Showing number of Deaths from Contagious Diseases amongst Animals during the year 1909-10.

Province.	Equines.						Bovines.							Others.												Remarks.
	Glanders.	Anthrax.	Surra.	Dourine.	Other contagious diseases.	Total.	Rinderpest.	Foot and mouth disease.	Hæmorrhagic Septicæmia.	Black quarter.	Anthrax.	Other contagious diseases.	Total.	Rinderpest.	Foot and mouth disease.	Hæmorrhagic Septicæmia.	Black quarter.	Anthrax.	Other contagious diseases.	Surra.	Distemper.	Rabies.	Fowl cholera.	Pleuro-Pneumonia Contagiosa.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Burma	(a) ..	..	..	..	..	..	22,240	5,207	..	(b) 3,119	..	..	30,566	..	..	..	..	..	..	..	..	..	..	..	..	(a) There is no system of registration in force in Burma. (b) These diseases are not differentiated by villagers or head men, but are considered as different manifestations of anthrax and so are included under this heading. (c) Tetanus. (d) Hydræmia of sheep. (e) Small-pox = 72, Kullog = 112.
United Provinces	32	..	250	..	(c) 64	346	17,071	3,677	2,839	679	1,333	389	25,988	300	2	19	..	..	..	1	10	2	29	30	393	
Punjab	22	7	452	..	45	526	18,055	3,899	18,255	1,546	55	358	42,168	855	468	878	6	201	6,445	..	..	..	..	..	8,853	
Eastern Bengal and Assam	14	22	29	..	115	180	28,860	7,783	3,327	38	1,820	8,448	50,276	728	65	4	..	9	519	..	..	..	..	..	1,325	
Bombay	6	1	325	..	4	336	1,520	62	3,651	1,125	523	137	7,018	..	..	..	..	..	..	..	..	..	..	..	..	
Sind	..	..	13	..	1	14	745	6	42	171	17	5	986	1	..	..	..	..	(d) 141	..	31	21	..	10	204	
Rajputana	..	1	46	..	..	47	..	10	..	10	..	2	22	..	..	..	..	..	..	..	3	6	..	..	9	
Baluchistan	..	..	..	..	..	..	..	12	..	..	..	8	20	..	..	..	..	..	(e) 184	..	..	..	..	873	1,057	
Madras	..	14	..	..	..	14	56,900	3,260	6,954	4,404	11,968	26,587	110,073	..	..	..	..	..	..	..	..	..	..	..	..	
North-West Frontier Province	2	..	46	..	1	49	1,448	113	1,225	105	138	32	3,061	833	103	106	..	337	1,295	..	..	..	..	..	2,674	
Bengal	160	6	..	..	220	386	8,869	2,374	3,130	737	812	1,723	17,645	..	..	..	..	..	420	..	..	..	..	..	420	
Total	236	51	1,161	..	450	1,898	155,708	26,403	39,423	11,934	16,666	37,689	287,823	2,717	638	1,007	6	547	9,004	1	44	29	29	913	14,935	

TABLE III.

Showing results of preventive inoculation during the year 1909-10.

Province.	Name of disease against which inoculation was carried out.	Method of inoculation followed.	Number of outbreaks in which inoculation was undertaken.	Number of animals which died uninoculated in course of outbreak.			Number of animals inoculated.			Number of animals which died after inoculation.			Remarks.
				Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	Equines.	Bovines.	Others.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Burma	Rinderpest.	Serum alone.	34	..	984	..	..	3,466	..	..	226	..	
United Provinces			570	..	5,629	13	..	43,362	15	..	91	..	
Punjab			283	..	5,704	..	..	43,250	..	..	95	..	
Eastern Bengal and Assam			376	..	8,091	5	..	38,153	83	..	339	..	
Bombay			35	..	372	..	..	1,872	..	..	3	..	
Sind			5	..	648	..	..	387	7	..	2	..	
Madras			593	..	12,724	1,025	..	46,952	1,149	..	38	..	
North-West Frontier Province			40	..	992	6	..	15,026	..	..	8	..	
Central Provinces			187	..	1,070	..	..	21,537	..	..	41	..	
Bengal			136	..	841	..	..	14,992	37	..	123	5	
Total			2,259	..	37,055	1,049	..	228,997	1,291	..	966	5	
United Provinces	Black quarter.	Serum alone.	13	..	91	..	..	2,189	..	..	..	..	
Sind			2	..	81	..	..	97	..	..	1	..	
Bengal			5	..	..	..	..	197	..	..	..	..	
Total			20	..	172	..	..	2,483	..	..	1	..	
Punjab	Black quarter.	Vaccine.	48	..	..	..	..	1,899	..	..	16	..	
Madras			5	..	81	..	..	797	..	..	..	..	
North-West Frontier Province and North Punjab.			25	..	..	..	..	4,442	..	..	4	..	
Total			78	..	81		..	7,138	..	..	20	..	
Eastern Bengal and Assam	Anthrax.	Serum alone.	22	13	175	1	302	3,203	6	1	2	..	
Madras			..	..	..	..	..	36	..	..	..	..	
Total			22	13	175	1	302	3,239	6	1	2	..	
United Provinces	Hæm. Sept.	Serum alone.	104	1	675	..	..	7,520	..	..	6	..	
Total			104	1	675	..	..	7,520	..	..	6	..	
Punjab	Hæm. Sept.	Vaccine.	6	.	7	..	..	298	..	..	..	..	
Central Provinces			17	..	476	..	..	1,397	..	..	..	..	
Total			23	..	483	..	..	1,695	..	..	..	..	

TABLE IV.

Showing the number of Animals treated and castrated by Veterinary Assistants on tour during 1909-10.

Province.	Number of villages visited.	Number of Veterinary Assistants employed.	Castrations performed.				Treated for contagious diseases.				Treated for non-contagious diseases.				Total number of cases treated and castrations performed.	Remarks.
			Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Burma	18,965	(a) 112	2	..	..	2	20	41,253	43	41,316	1,331	30,827	196	32,354	(b) 73,672	
United Provinces	18,722	78	156	46	19	251	162	52,134	859	(c) 53,155	5,284	10,783	1,211	17,278	70,684	
Punjab	12,155	121	215	313	35	563	398	75,393	1,636	77,427	4,816	13,235	1,234	19,285	97,275	
Eastern Bengal and Assam	6,662	44	51	83	42	176	787	30,977	1,145	32,909	6,041	31,525	2,978	40,544	73,629	
Bombay	922	35	3	13	3	19	2	5,741	379	6,122	575	4,390	185	5,150	11,291	
Sind	161	7	2	..	..	2	7	436	557	1,000	1,184	594	646	2,424	3,426	
Rajputana	221	3	..	..	..	..	..	384	..	384	28	54	29	111	495	
Baluchistan	106	1	..	..	..	..	..	446	82	528	15	70	30	115	643	
Madras	..	..	14	187	1	202	..	..	..	..	95	1,557	217	1,869	2,071	
North-West Frontier Province and North Punjab.	1,410	23	138	77	61	276	93	12,908	3,231	16,232	1,255	2,812	654	4,721	21,229	
Central Provinces	10,743	29	14	53	15	82	17	23,149	17	23,183	2,486	19,976	635	23,097	(d) 46,620	
Bengal	13,047	64	44	12	33	89	84	29,683	447	30,214	5,353	12,878	1,350	19,581	49,884	
Total	83,114	517	669	784	209	1,662	1,570	272,504	8,396	282,470	28,463	128,701	9,365	166,529	450,919	

(a) Includes 1 died, 2 removed, 1 resigned.
(b) In addition to these the Inspectors treated 2,339 cases. The Assistants visited 377 villages and treated 1,198 cases in Shan States.
(c) Other than those inoculated.
(d) Includes 258 cases treated by Veterinary Assistant in markets, etc.

TABLE V.

Showing number of Animals treated at Veterinary Hospitals and Dispensaries during the year 1909-10.

Province.	Number of Veterinary Dispensaries.	Number of Veterinary Assistants employed at Dispensaries.	IN-PATIENTS. Remaining on 1st April.			Admitted during the year.			Total.			Discharged during the year.			Balance on 31st March.			OUT-PATIENTS. Number treated during the year.			Average daily attendance.			Total number of in and out-patients treated during the year.				Receipts.	Expenditure.
			Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Equines.	Bovines.	Other animals.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Burma . .	108	(a) 112	..	..	..	18	5	3	18	5	3	15	5	3	3	..	..	1,850	14,626	541	5·06	40·07	1·4	1,868	14,631	544	(b) 17,043	Rs. A. P. ..	Rs. A. P. ..
United Provinces	36	36	45	9	7	2,173	796	389	2,218	805	396	2,164	792	389	54	13	7	12,415	11,150	7,650	34·01	30·5	20·9	14,633	11,955	8,046	34,634	52,042 0 0	44,845 0 0
Punjab . .	94	94	49	21	16	3,228	2,198	615	3,277	2,219	631	3,183	2,174	612	94	45	19	51,948	111,675	29,471	..	..	..	55,131	113,852	30,083	199,066	189,586 0 0	166,101 0 0
Eastern Bengal and Assam.	14	14	7	11	3	110	263	27	117	274	30	113	253	30	4	21	..	2,770	10,565	2,585	1·9	5·3	1·5	2,887	10,839	2,615	16,341	19,002 12 2	17,595 5 7
Bombay . .	35	35	(c) 30	(d) 41	(e) 3	700	1,068	146	730	1,109	149	682	1,062	146	48	47	3	9,284	46,772	8,586	..	..	..	10,014	47,881	8,735	66,630	61,351 4 7	41,542 1 1
Sind . .	6	7	(f) 16	32	7	358	293	184	374	325	191	366	311	186	8	14	5	4,179	3,848	2,915	..	..	..	4,553	4,173	3,106	11,832	40,311 6 0	26,619 13 0
Rajputana .	2	3	2	..	1	56	17	34	58	17	35	57	17	34	1	..	1	190	212	316	..	..	..	248	229	351	828	6,280 4 2	2,632 8 4
Madras Veterinary College.	1	5	26	32	13	483	167	425	509	199	438	487	181	426	22	18	12	303	142	483	7·5	2·0	0·07	812	341	921	2,074	14,243 2 10	39,058 11 1
Madras Civil Veterinary Department.	21	22	30	37	18	753	1,263	525	783	1,300	543	759	1,263	518	24	37	25	9,840	24,793	6,226	6·4	13·21	4·3	10,623	26,093	6,769	(h) 45,461	15,721 9 10	24,449 14 10
North-West Frontier Province and North Punjab.	17	17	26	3	3	1,508	358	223	1,534	361	226	1,502	359	215	32	2	11	12,874	16,879	7,491	..	..	..	14,376	17,238	7,706	39,320	17,891 0 0	17,891 0 0
Central Provinces	48	48	14	17	3	290	415	85	304	432	88	294	421	86	10	11	2	11,179	37,355	8,913	..	..	..	11,483	37,787	9,001	58,271	..	..
Bengal . .	26	26	(g) 39	110	6	1,196	2,906	218	1,235	3,016	224	1,128	2,818	204	107	198	20	6,088	12,657	4,067	..	..	..	7,323	15,673	4,291	27,287	49,606 0 0	41,478 0 0
Total	408	419	284	313	80	10,873	9,749	2,874	11,157	10,062	2,954	10,750	9,656	2,849	407	406	105	122,920	290,674	79,244	..	..	..	133,951	300,692	82,168	518,787	466,235 7 7	422,213 5 11

(a) Includes one died, two removed and one resigned.
(b) In addition to these 298 cases were treated by Inspectors and 26 by Assistants in Shan States.
(c), (d) and (e) 35, 42 and 5, respectively, were shown as closing balance in the Report for 1908-09, the difference is due to the exclusion of the Poona Dispensary from the table and correction in the return of Jalgaon Dispensary.
(f) 15 were shown by mistake last year as balance on 31st March 1909.
(g) Correct figures reported this year.
(h) Details of 1,976 patients not available.

TABLE VI.

Abstract showing Receipts and Expenditure of Veterinary Dispensaries during 1909-10.

Province.	Receipts.							Expenditure.						Balance.	Remarks.
	Last year's balance.	By Local Fund grants.	By Government grants.	By Municipal contribution.	By fees.	By other sources.	Total.	Pay.	Travelling allowances.	Medicines, instruments, etc.	Furniture, etc.	Contingencies.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Burma	..	..	..	..	..	509 0 0	509 0 0	1,26,076 0 0	43,468 0 0	13,408 0 0	56 0 0	53,883 0 0 (a)	2,36,891 0 0	..	
United Provinces	5,755 0 0	39,037 0 0	1,256 0 0	3,151 0 0	1,494 0 0	1,349 0 0	52,042 0 0	28,560 0 0	3,244 0 0	6,099 0 0	929 0 0	6,013 0 0	44,845 0 0	2,691 0 0 (b)	
Punjab	..	40,805 0 0	1,34,642 0 0	1,470 0 0	11,867 0 0	802 0 0	1,89,586 0 0	56,827 0 0	5,743 0 0	22,969 0 0	2,605 0 0	77,957 0 0	1,66,101 0 0	..	
Eastern Bengal and Assam	1,152 12 9 (c)	12,332 1 5	3,939 10 8	358 0 0	619 14 4	600 5 0	19,002 12 2	7,398 12 3	2,958 1 10	1,579 8 8	123 14 0	5,535 0 10	17,595 5 7	1,407 6 7 (d)	
Bombay	20,757 6 4 (e)	28,244 0 0	18,951 3 3	3,233 0 0	3,237 5 6	7,685 11 10	82,108 10 11	12,670 1 3	1,247 7 1	11,544 9 1	1,534 11 8	14,545 4 0	41,542 1 1	40,566 9 10	
Sind	16,200 5 7	11,177 0 0	5,573 6 0	3,190 0 0	4,129 1 0	41 9 5	40,311 6 0	15,257 4 3	1,446 15 5	3,123 0 4	28 4 0	6,764 5 0	26,619 13 0	13,691 9 0	
Rajputana	2,257 8 11 (f)	790 0 0	900 0 0	1,357 0 0	699 11 3	276 0 0	6,280 4 2	1,732 5 4	86 6 0	777 5 0	..	36 8 0	2,632 8 4	3,367 11 10 (g)	
Madras Veterinary College	..	..	..	..	14,243 2 10	..	14,243 2 10	21,349 7 8	105 11 0	5,743 11 0	161 10 10	11,698 2 7	39,058 11 1	..	
Madras Civil Veterinary Department.	..	10,465 11 6	480 0 0	110 0 0	2,282 11 9	2,565 9 7	15,904 0 10	14,749 5 5	636 12 1	5,306 11 10	658 9 4	3,098 7 3	24,449 13 11	..	
North-West Frontier Province and North Punjab.	..	8,326 0 0	7,756 0 0	1,497 0 0	..	312 0 0	17,891 0 0	11,172 0 0	621 0 0	4,475 0 0	872 0 0	551 0 0	17,891 0 0	..	
Central Provinces	1,662 0 4	7,839 15 3	4,600 10 6	8,261 8 2	1,273 3 0	2,425 3 6	26,062 8 9	15,797 11 8	1,973 4 6	11,466 4 5	1,574 1 0	11,086 12 7	41,898 2 2	5,835 9 5	
Bengal	4,787 0 0 (h)	23,207 0 0	4,604 0 0	4,175 0 0	4,014 0 0	8,819 0 0	49,606 0 0	18,679 0 0	3,621 0 0	9,382 0 0	3,281 0 0	6,515 0 0	41,478 0 0	8,128 0 0	
Total	52,572 1 11	1,82,223 12 2	1,82,702 14 5	26,802 8 2	43,860 1 8	25,385 7 4	5,13,546 13 8	3,30,268 15 10	65,351 9 11	95,874 2 4	11,824 2 10	1,97,683 8 3	7,01,002 8 2	..	

(a) Includes R26,813 on account of compensation for land taken up for public purposes.
(b) In some of the districts the unexpended balance lapsed on the termination of the official year.
(c) The difference of R79-4-0 is accounted for having been credited to Government Treasury last year leaving no balance in hand.
(d) Actual balance R1,144-4-7; credited to Treasury R263-2-0.
(e) These figures differ from the closing balance as given in the Report for 1908-09, as they have been subsequently corrected.
(f) R3,176-1-5 was shown as balance on 31st March 1909 in the Report for 1908-09, the sum of R918-8-6 having been debited to Veterinary Fund.
(g) Last year's balance not taken into account in Beawar District, Merwara.
(h) Correct figures reported this year.

TABLE VII.

Showing total strength of Subordinate Veterinary Staff employed during the year 1909-10.

Province.	How occupied.	Whether paid from Provincial or Local Funds.	Veterinary Inspectors.	Veterinary Assistants.	Subordinate Teaching Staff.	Remarks.
1	2	3	4	5	6	7
			No.	No.	No.	
Burma	In Schools and Colleges	Provincial	..	1	1	
	In Dispensaries	Do.	..	(a) 46	..	(a) Includes— Reserve . 3; Head-quarters . 2; Removed . 1
	On other work	Local Funds	..	(b) 65	..	
		Do.	(c) 10	..	..	(b) Includes— Died . 1; Removed . 1; Resigned . 1
						(c) Includes died 1.
United Provinces	Itinerating	Local	..	73	..	
	Ditto	Provincial	12	..	..	
	In Dispensaries	Local	..	33	..	
	Ditto	Provincial	..	1	..	
	Itinerating and in Dispensaries	Local	..	1	..	(d) 29 Itinerating Veterinary Assistants.
	In Municipality	Do.	..	12	..	5 Office Veterinary Assistants.
	In charge Depôt at Moradabad	Provincial	..	1	..	2 Tonga Line Veterinary Assistants.
	Attached to office of Superintendent, Civil Veterinary Department, Lucknow	Do.	..	7	..	6 Reserve Veterinary Assistants.
	In charge Kheri Rearing Depôt	Do.	..	1	..	42
Punjab	In Dispensaries	....	..	93	..	*1 Professor of Anatomy.
	On other work	....	12	(d) 42	..	1 Professor of Materia Medica
	School and College	Provincial	..	..	*6	1 Demonstrator of Anatomy. 1 Assistant Professor of Chemistry. 1 Assistant Professor of Sanitary Science.
Eastern Bengal and Assam	Inspection	Provincial	2	..	..	1 Professor of Bov. Pathology.
	Itinerating	Do.	..	5	..	
	Ditto	Provincial and Local	..	25	..	
	Veterinary Hospital	Ditto	..	2	..	(e) Hospital Surgeon.
	Itinerating and Veterinary Dispensary	Provincial	..	3	..	(f) One Assistant Principal and two Lecturers.
	Itinerating and Veterinary Hospital	Provincial and Local	..	6	..	(h) Includes 2 in Cochin and 1 in Pudukotai States having no lien on British service.
	Itinerating and Veterinary Dispensary	Ditto	..	3	..	
Bombay	In Schools and Colleges	Provincial	..	..	4	(i) Having no lien on Government service.
	In Dispensaries	Local	..	1	..	
	Ditto	Provincial	..	34	..	
	On other work	Do.	2	1	..	
Sind	In Dispensaries	Local Funds	..	7	..	
Rajputana	Ditto	Do.	..	3	..	(j) 5 on itinerating duty. 1 attached to office.
Baluchistan	On other work	Provincial	..	1	..	
Madras	College work	Do.	..	(e) 1	(f) 4	
Madras Civil Veterinary Department	Itinerating and attending Cattle Fairs and Shows	Provincial	3	25	..	(k) Hospital Surgeon, Bengal Veterinary College.
	In charge of Hospitals	Local and Provincial	..	15	..	(l) 1 Veterinary Overseer, 1 Veterinary Assistant, Bengal Veterinary College.
		Rajas and Zemindars	..	(h) 5	..	
		S. P. C. A.	..	(i) 1	..	(m) 1 Assistant Principal and 5 Lecturers in Bengal Veterinary College.
	In charge of Quarantine Depôt	....	..	1	..	
North-West Frontier Province and North Punjab	In Hospitals	....	..	17	..	(n) The Veterinary Assistant at Dumka.
	On other work	....	2	(j) 6	..	(o) Includes 2 Veterinary Assistants employed by the Dumraon and Hathwa Raj States and 1 by Kooch Bihar Raj State.
Central Provinces	In Dispensaries	Provincial	..	46	..	
		State Service and Court of Wards	..	2	..	
	On other work	Provincial	6	..	..	
	Touring	....	..	29	..	(p) Includes 2 Veterinary Assistants employed by the Pinjrapole Societies of Calcutta and Hazaribagh.
	Attached to office	....	..	4	..	
	Slaughter House	....	..	1	..	
Bengal	In School and College	Provincial	(k) 1	(l) 2	(m) 6	
	In Dispensaries	Do.	..	(n) 1	..	(q) Six Veterinary Inspectors employed in the Civil Veterinary Department, eight Glanders Inspectors, one Court Veterinary Inspector under the Principal, Bengal Veterinary College.
		Local	..	(o) 23	..	
	On other work	Provincial	(q) 15	3	..	
		Local	..	(p) 39	..	
	Total		65	688	21	

TABLE VIII.

Return of Stud Bulls for the year 1909-10.

Province.	Property of Government.					Property of Local Boards.					Remarks.
	Number on 1st April 1909.	Obtained during the year.		Casualties during the year.	Balance remaining on 31st March 1910.	Number on 1st April 1909.	Obtained during the year.		Casualties during the year.	Balance remaining on 31st March 1910.	
		Number.	Average price paid.				Number.	Average price paid.			
1	2	3	4	5	6	7	8	9	10	11	12
			Rs. A. P.					Rs. A. P.			
United Provinces	6	1	102 0 0	1	6	40	4	95 0 0	..	44	
Punjab	..	..	..	..	..	437	87	..	52	472	
Eastern Bengal and Assam	7	9	118 11 0	..	16	(a) 28	13	68 14 0	3	38	(a) One was omitted last year.
Bombay	..	..	..	..	..	(b) 11	22	..	2	31	(b) 16 were shown as balance on 31st March 1909 in the Report for 1908-09, but the purchases were completed in June 1909.
Rajputana	..	..	..	..	..	2	..	..	..	2	
Madras	18	..	..	1	17	..	..	..	..	..	
North-West Frontier Province and North Punjab	..	2	..	..	2	14	4	..	1	17	
Central Provinces	7	3	..	3	7	..	..	..	..	..	
Bengal	12	..	..	2	10	26	..	..	3	23	
Total	50	15	220 11 0	7	58	558	130	..	61	627	

TABLE IX.

Showing main results of the working of Provincial Cattle Farms during the year 1909-10.

Province.	Name of farm.	Receipts.				Expenditure.						Valuation of stock, grain and fodder remaining at close of year as detailed on reverse.			
		Sale of animals.	Sale of produce.	Other heads.	Total.	Salaries of establishment.	Feed and keep of animals.	Cultivation expenses.	Purchase of animals.	Other heads.	Total.	Cattle.	Grain.	Fodder.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.	Rs.	Rs. A. P.
United Provinces	Kheri (Bull-rearing Farm)	..	..	..	..	..	..	..	..	3,000 0 0	3,000 0 0	..	..	..	..
Eastern Bengal and Assam	Upper Shillong Farm	774 2 0	576 1 6	8 0 0	1,358 3 6	(a) 1,050 1 9	3,459 0 0	(b) 554 6 1	124 12 0	..	5,188 3 10	4,350	105 7 0	..	4,455 7 0
Bombay	Northcote Cattle Farm, Chharodi.	3,540 14 0	63 5 9	36 4 0	3,640 7 9	4,254 0 0	5,827 2 9	2,556 12 9	..	5,377 0 1	18,014 15 7	18,430	158 14 0	6,100	24,688 14 10
Central Provinces	Telin Kheri	3,171 0 0	..	..	3,171 0 0	710 0 0	1,999 0 0	..	..	280 0 0	2,989 0 0	7,651	1,092 0 0	1,446	10,189 0 0
	Powar Khera	660 0 0	175 0 0	8 0 0	843 0 0	266 0 0	926 0 0	..	55 0 0	10 0 0	1,257 0 0	1,880	62 0 0	849	2,791 0 0
Bengal	Bettiah	..	..	..	..	40 0 0	341 0 0	..	..	..	381 0 0	3,970	..	..	3,970 0 0
	Siripur	12,932 0 0	894 0 0	500 0 0	14,326 0 0	860 0 0	10,774 0 0	249 0 0	1,441 0 0	2,251 0 0	15,575 0 0	6,240	..	..	6,240 0 0
	Kalimpong	..	..	581 0 0	581 0 0	254 0 0	82 0 0	212 0 0	..	33 0 0	581 0 0	636	..	..	636 0 0
Total		21,078 0 0	1,708 7 3	1,133 4 0	23,919 11 3	7,434 1 9	23,408 2 9	3,572 2 10	1,620 12 0	10,951 0 1	46,986 3 5	43,157	1,418 5 0	8,395	52,970 5 10

(a) This being only the wages of daily labourers for their keep.
(b) Including the cost of ensiling fodder.
NOTE.—See next page for details of stock in hand at close of year.

Valuation Statement of Cattle, Grain and Fodder in hand at close of the year 1909-10.

Number or Quantity. No.	Quantity.	Description.	Rate.	Value.	Remarks.
		UPPER SHILLONG FARM.			
		Cattle.	Rs.	Rs.	
8	..	Bullocks	80	640	
11	..	Bulls	140	1,540	
21	..	Cows	80	1,680	
4	..	Male stock, 2 years old . .	20	80	
9	..	Ditto, 1 year old . . .	10	90	
16	..	Ditto, calves . . .	10	160	
5	..	Female stock, 2 years old and above	20	100	
1	..	Ditto, 1 year old . .	10	10	
5	..	Ditto, calves . . .	10	50	
80	..	Total .	..	4,350	
	Mds. s. c.	*Grain and Fodder.*		Rs. a. p.	
	12 0 0	Oilcake	3	36 0 0	
	11 23 0	Matikalai	5	57 14 0	
	1 7 12	Rice	5	5 15 6	
	1 16 0	Salt	4	5 9 6	
		Total .	..	105 7 0	
		GRAND TOTAL .	..	4,455 7 0	
		NORTHCOTE CATTLE FARM, CHHARODI.			
		Cattle.	Rs.	Rs.	
3	..	Bulls	250	750	
126	..	Cows	60	7,560	
43	..	Heifers, 3 years old . . .	50	2,150	
39	..	Ditto, 2 years old . . .	30	1,170	
22	..	Ditto, yearlings . . .	20	440	
19	..	Female calves	10	190	
1	..	Bull, 3 years old . . .	100	100	
17	..	Bulls, 2 years old . . .	120	2,040	
15	..	Do. yearlings	80	1,200	
2	..	Bullocks, 3 years old . . .	150	300	
6	..	Ditto, 2 years old . . .	70	420	
1	..	Bullock, yearling . . .	40	40	
19	..	Bull calves	30	570	
10	..	Bullocks	150	1,500	
		Total .	..	18,430	

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Valuation Statement of Cattle, Grain and Fodder in hand at close of the year 1909-10—contd.

Number or Quantity. No.	Quantity.	Description.	Rate.	Value.	Remarks.
		NORTHCOTE CATTLE FARM, CHHARODI—*contd.*			
	Mds.	*Grain and Fodder.*	Rs. A. P.	Rs. A. P.	
	13	Guar crushed	1 6 0 per maund.	17 14 0	
	lbs. 850,000	Hay	6 0 0 per 1,000 lbs.	5,100 0 0	
	Bundles 20,000	Kirby	5 0 0 per 100 bundles	1,000 0 0	
	Mds. 47	Sundhia jowari for seed . .	3 0 0 per maund.	141 0 0	
		TOTAL GRAIN AND FODDER .	..	6,258 14 0	
		GRAND TOTAL .	..	24,688 14 0	
		CATTLE BREEDING FARM, TELIN KHERI.			
		Cattle.	Rs.	Rs.	
1	..	Bulls	100	100	
41	..	Cows	50	2,050	
20	..	Male stock, above 2 years old .	150	3,000	
12	..	Ditto, 2 years old . .	100	1,200	
7	..	Ditto, 1 year old . .	50	350	
11	..	Ditto, calves . . .	25	275	
2	..	Female stock, above 2 years .	32	64	
8	..	Ditto, 2 years old . .	30	240	
12	..	Ditto, 1 year old . .	20	240	
11	..	Ditto, calves . . .	12	132	
		TOTAL .	..	7,651	
		Grain and Fodder.	Rs. A. P.		
	lbs. 39,782	Cotton seeds	0 7 9 per khandi.	1,092	
	722,900 Pulas.	Hay . . . . . / Kirby, etc.	2 0 0 per 1,000 Pulas.	1,446	
		TOTAL .	..	2,538	
		GRAND TOTAL .	..	10,189	

Valuation Statement of Cattle, Grain and Fodder in hand at close of the year 1909-10—contd.

Number or Quantity.		Description.	Rate.	Value.	Remarks.
No.	Quantity.				
		POWAR KHERA FARM, HOSHANGABAD.			
		Cattle.	Rs.	Rs.	
6	..	Bulls	75	450	
29	..	Cows	30	870	
4	..	Male stock, 2 years old . .	50	200	
6	..	Ditto, 1 year old . .	20	120	
11	..	Ditto, calves . . .	10	110	
2	..	Female stock, 2 years old . .	15	30	
3	..	Ditto, 1 year old . .	10	30	
14	..	Ditto, calves . . .	5	70	
75	..	TOTAL .	..	1,880	
	Mds. s.	*Grain and Fodder.*		Rs. A. P.	
	24 28	Gram	16 seers per rupee.	61 12 0	
	311,525 Mds.	Hay Pulas	1,000 per rupee	311 8 5	
	268 30 s.	Cotton seeds	Rs. 2 per md.	537 8 0	
		TOTAL .	..	910 12 5	
		GRAND TOTAL .	..	2,790 12 5	
		BETTIAH.			
		Cattle.	Rs.	Rs.	
1	..	Bulls	150	150	
45	..	Cows	55	2,500	
4	..	Male stock, 2 years old . .	50	200	
10	..	Ditto, 1 year old . . .	40	400	
11	..	Ditto, calves . . .	30	330	
7	..	Female stock, 2 years old . .	25	175	
10	..	Ditto, 1 year old . .	20	200	
1	..	Ditto, calves . . .	15	15	
89	..	TOTAL .	..	3,970	
		Grain and Fodder.			
		Gram	..	..	
		Hay	..	..	
		Kirby, etc.	..	..	
		TOTAL .	..	..	
		GRAND TOTAL .	..	3,970	

Valuation Statement of Cattle, Grain and Fodder in hand at close of the year 1909-10—concld.

Number or Quantity.		Description.	Rate.	Value.	Remarks.
No.	Quantity.				
		SIRIPUR.			
		Cattle.	Rs.	Rs.	
3	..	Bulls	100	300	
6	..	Do	125	750	
44	..	Cows	75	3,300	
26	..	Male stock, 2 years old . .	40	1,040	
..	..	Ditto, 1 year old . .	..	..	
13	..	Ditto, calves . . .	20	260	
11	..	Female stock, 2 years old . . / Ditto, 1 year old . .	30	330	
13	..	Ditto, calves . . .	20	260	
116	..	TOTAL .	..	6,240	
		Grain and Fodder.			
		Gram	..	..	
		Hay	..	..	
		Kirby, etc.	..	..	
		TOTAL .	..	..	
		GRAND TOTAL .	..	6,240	
		KALIMPONG.			
		Cattle.	Rs.	Rs.	
..	..	Bulls	..	..	
15	..	Cows	40	600	
..	..	Male stock, 2 years old . .	..	..	
..	..	Ditto, 1 year old . .	..	..	
4	..	Ditto, calves . . .	6	24	
..	..	Female stock, 2 years old . .	..	..	
..	..	Ditto, 1 year old . .	..	..	
2	..	Ditto, calves . . .	6	12	
21	..	TOTAL .	..	636	
		Grain and Fodder.	Rs. A. P.	Rs. A. P.	
	Mds. 2	Gram	3 12 0 a maund.	7 8 0	
		Hay	..	..	
		Kirby, etc.	..	..	
		TOTAL .	..	7 8 0	
		GRAND TOTAL .	..	643 8 0	

TABLE X.

Return of Horse, Pony and Donkey Stallions under Local Bodies for the year 1909-10.

Details.	Horse and Pony Stallions under Local Bodies.													Donkey Stallions under Local Bodies.								
	Horses.						Ponies.						Total Horses and Ponies.									
	Arab.	Persian.	Thorough-bred, English.	Country-bred.	Australian.	Total.	Arab.	Persian.	Country-bred.	Deli.	Shan.	Total.		Italian.	Cyprian.	Country-bred (Punjabi).	Persian.	Catalonian.	Arab.	American.	Sicilian.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Balance on 1st April 1909	58	..	2	4	..	64	97	..	4	..	1	102	166	6	16	28	..	36	1	2	10	99
Increase — Purchase in India	10	..	..	2	..	12	12	..	1	..	..	13	25	..	..	6	..	..	..	..	..	6
Increase — Received by transfer	(a) 17	..	..	..	..	17	..	..	..	..	..	..	17	..	..	1	..	4	..	..	..	5
Total	85	..	2	6	..	93	109	..	5	..	1	115	208	6	16	35	..	40	1	2	10	110
Decrease — Died	2	..	..	..	..	2	..	..	..	..	..	..	2	..	1	1	..	..	..	..	..	2
Decrease — Sold	2	..	..	..	..	2	7	..	..	..	1	8	10	1	1	..	..	..	1	..	..	3
Decrease — Destroyed	1	..	..	..	..	1	2	..	..	..	..	2	3	..	..	..	..	..	..	..	..	..
Decrease — Transferred	(b) 17	..	..	..	..	17	..	..	..	..	..	..	17	..	..	1	..	4	..	..	..	5
Total Decrease	22	..	..	..	..	22	9	..	..	..	1	10	32	1	2	2	..	4	1	..	..	10
Balance on 31st March 1910	63	..	2	6	..	71	100	..	5	..	..	105	176	5	14	33	..	36	..	2	10	100
United Provinces	46	..	2	2	..	50	5	..	..	..	..	5	55	..	..	6	..	9	..	2	..	17
Punjab	5	..	..	..	..	5	60	..	4	..	..	64	69	4	13	25	..	21	..	..	7	70
North-West Frontier Province	9	..	..	1	..	10	9	..	..	..	..	9	19	1	1	2	..	6	..	..	3	13
Bombay	2	..	..	3	..	5	13	..	1	..	..	14	19	..	..	..	..	..	..	..	..	..
Bengal	1	..	..	..	..	1	1	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..
Madras	..	..	..	..	..	..	12	..	..	..	..	12	12	..	..	..	..	..	..	..	..	..
Burma	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Central Provinces	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	63	..	2	6	..	71	100	..	5	..	..	105	176	5	14	33	..	36	..	2	10	100

(a) Includes 1 Arab horse presentation in United Provinces.
(b) Includes 1 removed from United Provinces registers.

TABLE XI.

Services and Produce of each class of Horse, Pony and Donkey Stallions under Local Bodies during 1909-10.

Horse, Pony or Donkey.	PROVINCE.	Stallions on register on 31st March 1910.	STALLIONS ACTUALLY EMPLOYED AT STUD.		NUMBER OF MARES COVERED.		AVERAGE NUMBER OF MARES COVERED PER STALLION EMPLOYED AT STUD.		REMARKS.
			Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	
1	2	3	4	5	6	7	8	9	10
Horse . .	United Provinces .	50	42	36	2,267	1,838	53·9	51·5	
	Punjab . . .	5	5	5	236	272	47	54	
	Bombay . . .	5	6·02	6·59	220	295	36·54	44·76	
	Bengal . . .	1	..	..	..	..	..	..	
	North-West Frontier Province and North Punjab.	10	8	8	540	495	67·5	61·87	
	TOTAL .	71	61·02	55·59	3,263	2,900	53·5	52·17	
Pony . .	Burma . . .	..	1	3	5	58	5	19·3	
	United Provinces .	5	5	8	359	386	71·8	48·2	
	Punjab . . .	64	62	60	3,384	3,233	54	54	
	Bombay . . .	14	12·85	11·41	443	343	34·47	30·06	
	Madras . . .	12	12	13	277	239	23·00	17·5	
	North-West Frontier Province and North Punjab.	9	9	10	453	505	50·33	50·5	
	Central Provinces .	..	1	1	1	6	1	6	
	Bengal . . .	1	..	1	..	..	..	..	
	TOTAL .	105	102·85	107·41	4,922	4,770	47·8	45·22	
Donkey . .	United Provinces .	17	9	9	417	412	46·3	45·7	
	Punjab . . .	70	70	70	3,171	2,846	45	41	
	Bombay . . .	..	..	..	..	..	..	..	
	North-West Frontier Province.	13	14	15	714	482	51	32·13	
	TOTAL .	100	93	94	4,302	3,740	46·3	39·78	

TABLE XII.

Showing average cost of feed, keep, attendance, etc., of Horse, Pony and Donkey Stallions during the year 1909-10.

PROVINCE.	HORSE.		PONY.		DONKEY.		REMARKS.
	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	
1	2	3	4	5	6	7	8
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	
Burma . . .	..	..	302 4 9	220 4 4	..	..	
Punjab . . .	315 0 0	382 0 0	339 0 0	374 0 0	189 0 0	202 0 0	
Bombay . . .	441 0 0	518 0 0	452 0 0	501 0 0	..	..	
Madras . . .	..	..	690 12 11	397 9 7	..	..	
North-West Frontier Province and North Punjab.	340 10 9	336 5 0	314 8 9	328 11 2	234 7 10	219 12 11	
Central Provinces .	..	..	287 8 2	759 9 9	..	..	
Bengal . . .	113 0 0	..	169 8 0	224 4 0	..	..	

TABLE XIII.

Abstract of particulars regarding Horse Fairs and Shows held in non-selected districts during the year 1909-10.

Province.	Number of Horse Fairs and Shows held.	Total number of animals present.		Total number competing for prizes.		Total number of horse stock (not including branded mares) present.		Number of remounts purchased.				Price paid for remounts.			Number of mules purchased.			Price paid for mules by Government.			Total number of animals sold.	Prizes awarded.							Amount sanctioned by Government of India for next year's Fair or Show.
		Year under report.	Previous year.	Year under report.	Previous year.	Belonging to breeders.	Belonging to dealers.	For Remount Department.	For Native Cavalry.	For Police.	Total.	Highest price.	Lowest price.	Average price.	By Government.	By others.	Total.	Highest price.	Lowest price.	Average price.		From Imperial Funds.	From Provincial Funds.	From Local Funds.	From other sources.	Total.	Amount actually awarded.	Number of medals awarded.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Bombay	1	387	464	387	464	153	142	..	..	15	15	375	265	316	..	..	..	..	..	..	53	1,000	1,500	1,500	..	4,000	1,965	2	1,000
Punjab	7	4,176	3,353	639	977	3,026	..	..	..	..	..	..	..	..	..	54	54	..	..	..	567	1,200	..	1,517	..	2,717	1,868	2	1,050
North-West Frontier Province and North Punjab.	3	1,103	1,061	936	898	729	..	9	..	..	9	..	..	213	..	..	..	..	..	..	9	2,680	..	730	..	3,410	2,685	3	..
Bengal	8	9,822	12,384	123	211	30	5,475	..	..	..	..	..	..	..	..	..	..	..	..	..	5,302	..	150	430	..	580	534	1	..
Total	19	15,488	17,262	2,085	2,550	3,938	5,617	9	..	15	24	375	265	529	..	54	54	..	..	..	5,931	4,880	1,650	4,177	..	10,707	7,052	8	2,050

TABLE XIV.

Abstract of particulars regarding Cattle Fairs and Shows held during the year 1909-10.

Province.	Number of Cattle Fairs and Shows held.	Total number of stock present.							Average price of animals sold.					Amount realized in fees.	Total number of animals that competed for prizes.	Prizes awarded.						Number of medals awarded.	Remarks.
		Bulls.	Bullocks.	Cows.	Young stock.	Buffaloes.	Camels.	Others.	Bulls.	Bullocks.	Cows.	Buffaloes.	Camels.			From Imperial Funds.	From Provincial Funds.	From Local Funds.	From other sources.	Total.	Amount actually awarded.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
									Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.		Rs.	Rs.	Rs.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
Burma	1	23	72	8	8	172	..	100	..	..	..	..	..	..	383	..	1,345	..	..	1,345 0 0	..	..	
United Provinces	5	45	521	236	578	..	..	..	..	..	..	..	..	..	204	..	1,000	..	..	1,000 0 0	934 0 0	..	
Punjab	31	392	153,553	23,018	26,183	48,023	4,869	15,719	..	..	..	..	..	1,05,713 0 0	3,695	35	..	11,510	295 0 0	11,840 0 0	10,129 0 0	5	
Eastern Bengal and Assam.	68	12,692	133,933	10,600	34,580	30,694	2,766	7,441	..	..	..	..	..	1,17,886 10 0	517	..	96	820	99 0 0	1,015 0 0	948 0 0	3	
Bombay	4	1,755	4,520	833	539	1,128	..	6,507	385	280 0 0	115 0 0	173 0 0	..	1,251 14 0	1,281	..	2,800	850	..	3,650 0 0	2,717 0 0	6	
Sind	2	31	428	81	35	139	18	..	..	60 0 0	..	..	..	..	725	..	..	1,380	..	1,380 0 0	1,115 0 0	..	
Baluchistan	2	113	189	47	11	..	..	..	24	..	..	..	..	..	313	500	..	95	50 0 0	645 0 0	595 0 0	2	
Madras	21	563	129,698	1,268	5,343	6,163	..	398	..	87·5	38·75	..	..	860 2 11	146,433	..	4,825	3,349	4,208 9 9	12,382 9 9	1,279 4 0	23	
North-West Frontier Province and North Punjab.	4	253	298	250	46	302	44	119	..	..	..	..	..	..	1,126	1,850	..	750	200 0 0	2,800 0 0	2,504 0 0	7	
Central Provinces	13	815	38,661	10,300	5,159	9,774	7	4,711	450	480 5 0	198 5 5	441 0 8	..	10,229 13 4	558	..	550	1,390	328 0 0	2,268 0 0	1,508 0 0	2	
Bengal	13	284	66,457	16,258	16,453	16,124	360	10,652	40	30 0 0	25 0 0	30 0 0	50	18,649 0 0	1,301	..	900	1,345	369 0 0	2,614 0 0	1,948 0 0	1	
Total	164	16,966	528,330	62,899	88,935	112,519	8,059	45,647	..	..	..	..	..	2,54,590 8 3	156,536	2,385	11,516	21,489	5,549 9 9	40,939 9 9	23,677 4 0	49	

TABLE XV.

Showing main results of the working of the Imperial Bacteriological Laboratory during 1909-10.

	QUANTITY OF SERA OR ANTI-TOXIN PREPARED AND ISSUED.						INSTRUCTION IMPARTED.			FINANCIAL RESULTS.										
										RECEIPTS.					EXPENDITURE.					
	Names of sera or anti-toxin.	Opening balance.	Prepared during the year.	Total.	Issued during the year.	Stock in hand.	Department or Province.	Veterinary Inspectors and Assistants attending class.	Number passed.	Sale of animals.	Sale of sera.	Sale of garden products and revenue from reserved forests.	Other miscellaneous receipts.	Total.	Salaries and travelling allowances of officers and subordinate establishment.	Feed and keep of animals.	Purchase of animals.	Cost of chemicals and apparatus.	Other miscellaneous expenditure.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
		Doses.	Doses.	Doses.	Doses.	Doses.		Nos.	Nos.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Muktesar Laboratory.	Rinderpest	41,563	409,078	450,641	446,981	3,660	United Provinces.	9	9											
	Anthrax	4,036	12,168	16,204	12,404	3,800	(a) Punjab	2	2											
	Hæmorrhagic Septicæmia.	1,640	8,320	9,960	9,960	..	North-West Frontier Province and North Punjab.	2	2											
	Charbon Symptomatique.	550	20,350 and 5,800 c. c. serum.	20,900 and 5,800 c. c. serum.	20,900	5,800 c. c. serum.	Bengal	2	2	591 5 3	3,093 10 0	478 1 4	69 5 6	4,232 6 1	75,809 6 5	47,914 1 9	22,874 10 0	18,996 0 4	17,414 5 1	1,83,008 7 7
	Mallein	3,352	9,515	12,867	10,137	2,730	Eastern Bengal and Assam.	9	9											
	Tuberculin	165	444	609	469	140	Bombay Veterinary College.	1	1											
	Strangles	..	5,753 c. c.	5,753 c. c.	2,583 c. c. or 125 doses.	3,170 c. c.	Native States	1	1											
Bareilly Depôt.	....	..	..	..	..	..	United Provinces.	3	3											
	....	..	..	..	..	..	Punjab	1	1	..	..	278 0 0	..	278 0 0	10,001 0 4	3,105 12 4	3,800 2 0	..	..	16,906 14 8
	....	..	..	..	..	..	Bombay	6	6											
		51,306	459,875 and 11,553 c. c.	511,181 and 11,553 c. c.	500,851 and 2,583 c. c.	10,330 and 8,970 c. c.	TOTAL	36	36	591 5 3	3,093 10 0	756 1 4	69 5 6	4,510 6 1	85,810 6 9	51,019 14 1	26,674 12 0	18,996 0 4	17,414 5 1	1,99,915 6 3

(a) Includes 1 Laboratory Assistant from Punjab Veterinary College.

TABLE XVI.

Return of animals for 1909-10.

Detail.	Herd bulls.	Super-numerary bulls.	Cows.	Male produce.	Female produce.	Castrated produce.	Ordnance bullocks.	Cultivation bullocks.	Mules.	Pony mares for the M. B.	Pony stallions.	Camels.	Donkey stallions.	Donkey colts.	Donkey mares.	Donkey Fillies.	Rams.	Ewes.	Male lambs.	Female lambs.	Wethers.	Total.	REMARKS.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		22	23	24
1st April 1909	20	6	1,199	871	632	115	..	215	107	37	1	8	5	55	88	43	5	333	49	109	..	3,898	
Increase — By birth	..	..	..	318	345	..	..	..	13	..	..	..	..	26	..	19	..	..	132	119	..	972	
Increase — „ purchase	..	..	3	2	2	..	..	15	21	..	1	1	1	..	..	..	3	19	..	..	..	68	
Increase — „ transfer	8	85	199	3	..	177	187	28	..	..	..	..	1	..	8	..	1	36	..	..	1	734	
TOTAL	28	91	1,401	1,194	979	292	187	258	141	37	2	9	7	81	96	62	9	388	181	228	1	5,672	
Decrease — Died	1	1	89	54	54	3	..	7	3	..	..	..	..	11	3	8	1	45	26	48	1	305	
Decrease — Destroyed	..	..	..	..	2	..	..	1	1	..	1	..	..	1	..	..	..	1	..	3	..	10	
Decrease — Sold	1	57	145	72	108	6	178	26	54	..	..	2	1	8	..	..	..	..	47	1	..	706	
Decrease — Transferred	2	30	..	241	199	186	9	19	..	..	..	..	..	1	..	8	..	..	2	36	..	733	
TOTAL	4	88	184	367	363	195	187	53	58	..	1	2	1	21	3	16	1	46	75	88	1	1,754	
Balance	24	3	1,217	827	616	97	..	205	83	37	1	7	(a) 6	60	93	46	8	342	106	140	..	3,918	
VALUE Rs.	5,050	750	1,06,210	59,870	11,050	8,950	..	20,875	11,630	2,260	120	754	2,460	8,170	7,780	2,910	1,430	2,608½	615	365½	..	2,53,858	

(a) One at Goona.

TABLE XVII.

HISSAR FARM.

Results of donkey, mule and zebrule breeding during 1909-10.

—	Stallions on register at close of year.	Stallions actually employed at stud.		Number of mares covered.		Average of mares covered per stallion employed at stud.		Result of previous year's coverings.		Average result of previous year's coverings per stallion employed at stud.		Remarks.
		Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Number of produce.	Number not held.	Average of produce.	Average of not holds	
1	2	3	4	5	6	7	8	9	10	11	12	13
Donkey breeding	5	5	5	86	84	17·2	16·8	50(a)	34	10	6·8	(a) This number includes 3 slips and 2 still-born foals.
Mule breeding	5	4	5	36	35	9	7	13	22	2·6	4·4	

TABLE XVIII.

Abstract showing main results of the working of the Hissar Farm during the official year 1909-10.

	R	a.	p.
Receipts paid into Treasury.			
Sale of animals (a)	89,990	11	0
Sale of produce	251	11	9
Other heads	11,785	6	10
TOTAL	1,02,027	13	7
Expenditure.			
Salaries and travelling allowances of officers	19,419	11	0
Ditto ditto of subordinate staff	25,888	10	11
Cultivation expenses	17,967	11	5
Feed and keep of animals including reserve fodder R2,128-9-1	29,403	11	10
Purchase of animals	12,411	6	0
Other heads	8,547	13	10
TOTAL	1,13,639	1	0
Value of animals issued on book credit.			
Siege-train bullocks	28,480	0	0
Army transport bullocks	—		
Bulls	..		
Mules and donkeys	18,375	0	0
TOTAL	46,855	0	0
Valuation of animals, grain and fodder on hand at end of year.			
Valuation of animals as per Table XVI attached	2,53,858	0	0
Do. of grain	490	7	0
Do. of fodder	67,157	14	1
Do. of machinery and dead stock articles	44,184	2	10
TOTAL	3,65,690	7	1

(a) Includes valuation of animals issued on book credit.

TABLE XIX.

Statement showing total charges during 1909-10 in connection with Civil Veterinary Department.

—	Inspector-General.	Imperial Bacteriologist.	Hissar Cattle Farm.	United Provinces.	Punjab.	Bengal.	Madras.	Central Provinces.	Bombay.	Burma.	North-West Frontier Province.	Eastern Bengal and Assam.	Sind, Baluchistan and Rajputana.	Veterinary Officer investigating camel diseases.	TOTAL.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1. Superintendence	71,305 8 9	..	..	24,174 1 6	76,414 0 0	33,200 3 3	30,374 4 6	31,716 0 0	9,945 0 0	61,293 2 7	..	17,525 3 9	..	..	3,55,947 8 4
2. Veterinary Instruction	..	..	..	..	73,143 0 0	1,40,758 8 9	39,058 11 1	1,026 0 0	55,925 7 10	36,128 7 10	1,249 0 0	2,782 15 9	..	..	3,50,072 3 3
3. Subordinate Establishment.	..	..	..	31,162 1 4	1,10,878 0 0	13,193 5 8	25,702 11 9	59,662 0 0	37,870 5 1	1,29,076 14 4	17,701 0 0 (a) —4,512 0 0	48,445 6 10	..	..	4,69,179 13 0
4. Hospitals and Dispensaries.	..	..	..	3,203 2 7	66,875 0 0	15,772 12 3	17,886 1 9	4,173 0 0	92,024 3 7	9,952 0 2	11,999 0 0	19,853 7 3	..	..	2,41,738 11 7
5. Breeding operations	..	..	1,16,344 7 2	14,675 11 9	1,00,786 0 0	..	8,289 11 6	..	36,195 12 4	..	14,165 0 0	50 0 0	23,048 11 4	..	3,13,555 6 1
6. Prizes	—3,226	..	..	..	6,922 0 0	..	..	..	1,675 8 3	..	800 0 0	820 0 0	..	..	6,991 8 3
7. Fairs and Shows	..	..	..	..	56,975 0 0	..	4,810 0 0	..	19,608 4 5	..	9,335 0 0	2,533 0 0	..	..	93,261 4 5
8. Bacteriological Research.	..	1,95,180 10 3	..	..	..	..	..	..	..	..	..	..	..	..	1,95,180 10 3
9. Camel Specialist	..	..	..	..	..	..	..	..	..	..	..	..	..	16,760 2 8	16,760 2 8
10. Other charges	..	..	..	..	..	..	..	..	..	440 4 9	..	8,721 8 11	..	..	9,161 13 8
TOTAL	68,079 8 9	1,95,180 10 3	1,16,344 7 2	73,215 1 2	4,91,993 0 0	2,02,924 13 11	1,26,121 8 7	96,577 0 0	2,53,244 9 6	2,36,890 13 8	50,737 0 0	1,00,731 10 6	23,048 11 4	16,760 2 8	20,51,849 1 6

(a) Represent contributions recovered from District Boards for Veterinary Assistants.

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